OFFICE
27 DEC 196
KOVILPATTI
RURAL EXTENSION TRAINING CENTRE
449
2

# EXTENSION

THE FARM AND FARM HOME MAGAZINE December, 1962

# EXTENSION THE FARM AND FARM HOME MAGAZINE

**Vol. III** **DECEMBER 1962** **No. 6**


## CONTENTS


The Emergency and Najafgarh Farmers 2

Harvest hints on winter vegetables 5

The Barwale's way of making money with Improved *bhindi* seed 8

Try dry vitamins in your poultry feed 10

Glyricidia—A suitable support for pepper 12

The 'Package' comes to Bishanpura 14

Newer implements for threshing and weeding paddy 17

The right things to do for pests and disease of potato 19

The African Horse Sickness 20

Ammonium sulphate 23

**FOR HOME-MAKERS**

A new frock from an old one for your little girl 25



**FARM INFORMATION UNIT**
**DIRECTORATE OF EXTENSION, MINISTRY OF FOOD AND AGRICULTURE, GOVT. OF INDIA, NEW DELHI**

| | |
|---|---|
| Principal Editor | M.G. Kamath |
| Editor | T.C. Roy |
| Associates | Lal Karamchandani |
| | Shukla Hazra |
| Art Editor | Pratap Deb |
| Business Manager | R.D. Khanna |

**Annual Subscription : Rs. 5.50**
**Single Copy : 50 nP.**

# The hour has come...

The Nation is in a state of emergency. It is fully determined to throw back the aggressor and defend the freedom of the Motherland.

The jawans are fighting the enemy, and will throw them back from the sacred soil of India.

But defending the country is not the job of our gallant armed forces alone. It is a job that needs everyone—man, woman and child—to do his or her duty to the country.

In this grave situation, our farmers too have to shoulder a great responsibility. They have to fight the battle on the home-front. They have to put in greater efforts to see that they get a better yield from every field. Theirs is the responsibilty to see that the country will not be wanting in foodgrains and other essential commodities, and particularly vegetables for the jawans and the people.

Our rural people, and particularly farmers, everywhere are rising to the occasion. They have shown that the nation, to a man, is solidly behind our leaders. They are sworn to throw back the enemy by doing all they can in their respective stations.

Our Extension workers too are going about their work in a missionery spirit to assist the farmers in their new duties. "Extension" too will, in turn, provide them with the information they need to fulfil their tasks ahead.

And while we all strive to do our duty, it gives us courage and faith to keep before us the Prime Minister's resounding words :

"INDIA WILL WIN"

*"Our war effort essentially apart from the actual fighting done, is the effort to greater production in the field and the factory"*

—Prime Minister Jawaharlal Nehru

# THE EMERGENCY AND

Pandit Mulchand

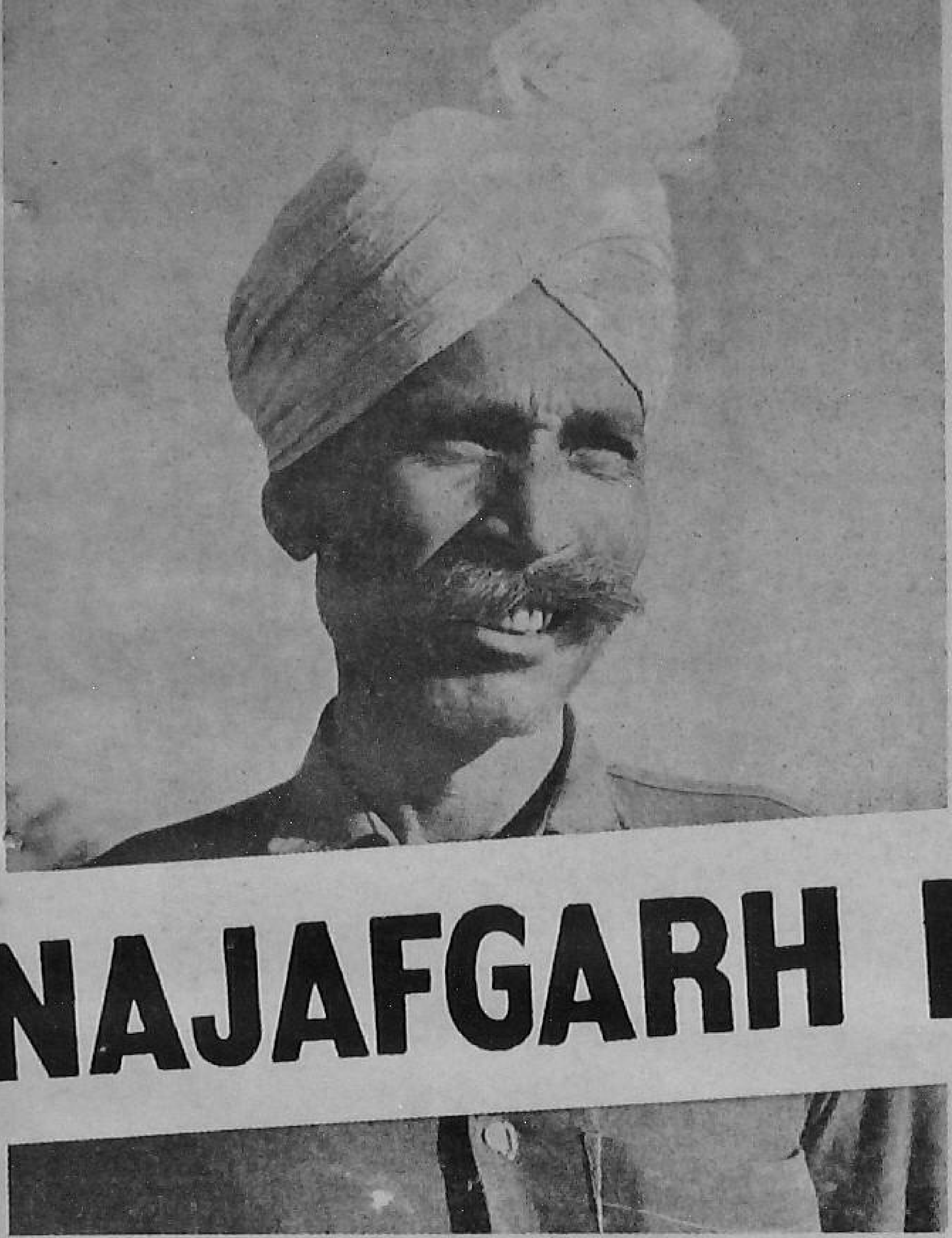
*"I put all my land under vegetables"*

By LAL KARAMCHANDANI

WHEN the call to duty was sounded in October last and the story of contributions and sacrifices for national defence was being told all over the country, fifteen miles away from Delhi, village India was showing how determined her farmers could be in a state of emergency.

In the villages of Najafgarh Block, the people had been stirred to action. Already, one out of every five of the able-bodied had enlisted in the armed forces. Those that remained behind were set upon doing their duty on the 'home-front.'

Pandit Mulchand, a 45-year-old farmer in Kangarhedi village, whom we first met said, "I am waiting for the call to join the army, but I am afraid that my age may come in the way. But no matter where I am, I will do my best to fulfil the role expected of every farmer in this emergency. I will put in my best efforts to produce more from the land." He added, "When the call



# NAJAFGARH FARMERS

Pradhan Karey Singh
*"We are prepared to give everything we have"*

Major' Ranbir Singh
*"We should work hard, produce more and spend le*

came for producing more vegetables, I put all my land—4 acres—under vegetables. I shall be the happiest person when these vegetables reach the jawans on the front."

Pradhan Karey Singh of Kangarhedi village had this to say: "This village has already put a thousand extra *bighas* under wheat this time. We are growing more and more vegetables in plots, big and small, in fact in every available piece of land. All of us here realize that it is our duty to work hard and produce more, so that our country is not short of food at this critical juncture."

Karey Singh spoke for the whole village, in fact for the whole Block, when he said, "We are even prepared to give everything we have—gold, grain, labour and men—to drive away the enemy from our Motherland."

Major Ranbir Singh of Raghapur village has his own plans to meet the challenge of times. Says he, "Our farmers are

Najafgarh women in the field
*"The nlace for men today—the battle-front"*

coming forward to respond to the Prime Minister's call to grow more vegetables to such an extent that there is a great demand now for quality vegetable seed. My plan is to satisfy that need to some extent." He says he is going to put as much as 50 acres to growing quality vegetable seed, so that every farmer in the area wanting to grow vegetables can get the seed he needs.

But Major Ranbir Singh, who retired from the army in 1948, is not satisfied with this alone. He has some useful suggestions for other farmers too. "Those who are fit should enlist, but those who cannot, need not feel disheartened; they too have a vital role to play—looking after the jawans' families and their fields. They should work hard and produce more, spend less and save more."

How are women of Najafgarh faring in this great emotional upsurge? To find that out, we met Sarita Devi, the young wife of Lance Naik Mukhtiar Singh of Dichion village, who is reported missing at NEFA front. We found her busy sewing garments and looking after her two young boys. And here is her reaction : "My husband is not missing. How can a person be missing when he is not found wanting in defending the Motherland ! My husband is immortal for he answered the call to fight for the country's freedom."

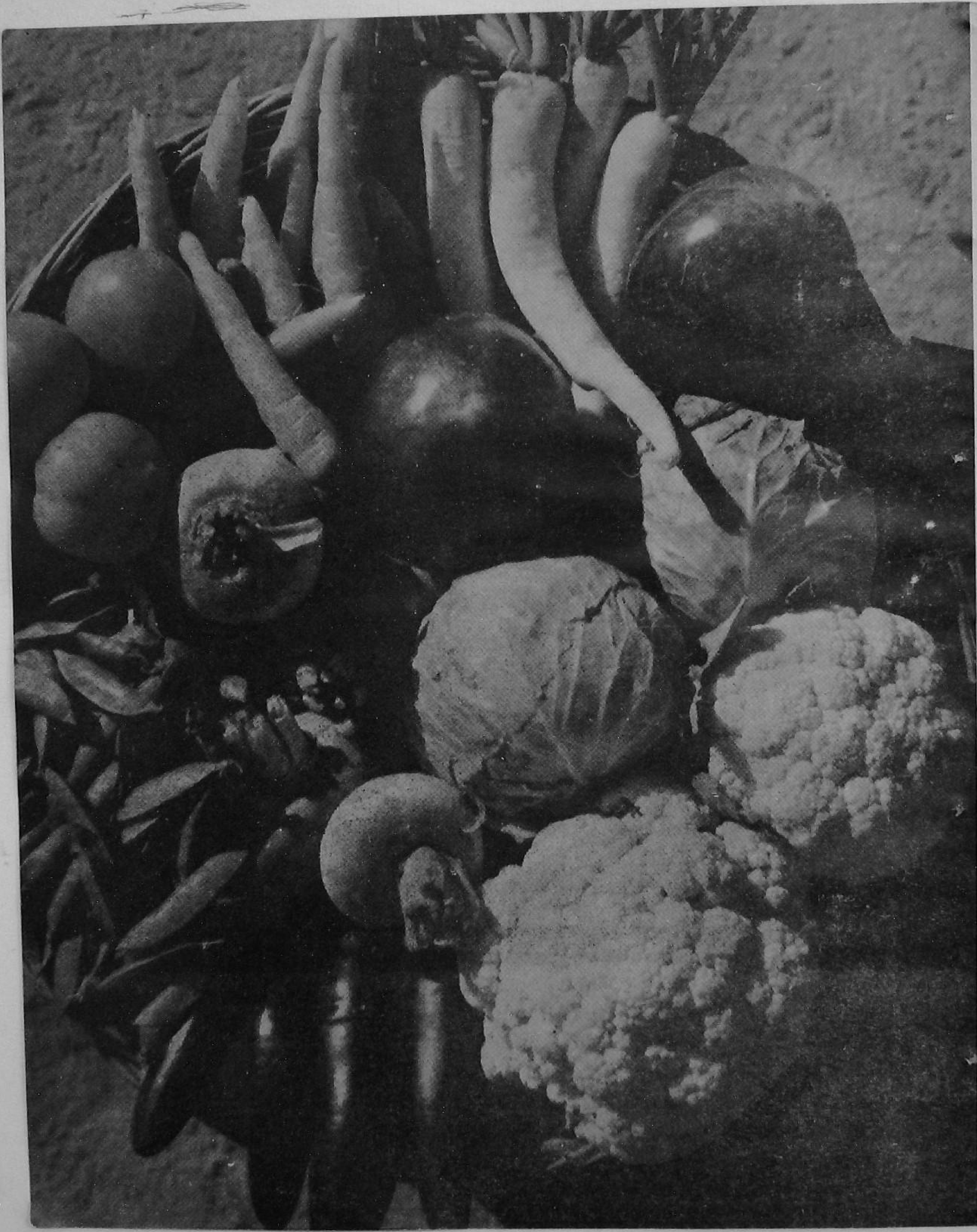
Other women too are willing to make sacrifices. They are prepared to take up the farm jobs and other chores, so that men may join the army and rid the country of the aggressors; for to men and women of Najafgarh, nothing else is more important than the freedom and honour of the country.

# HARVEST HINTS ON WINTER VEGETABLES

### CAULIFLOWER

A GOOD cauliflower head should be solid, compact and white. To get a white cauliflower head, break one or two outer leaves and cover the head with these leaves two or three days before harvesting.

Harvest the cauliflower **only** when it has developed well, i.e., when the head is still compact and not broken apart. While harvesting, cut the cauliflower well below the head ; trim those portions of the leaves which come above the head. The stubs of such leaves will protect the head from injury when it is carried to the market.



Do not go in for the big size only. The condition of the curd is a better guide than the size, for harvesting.

Harvest your cauliflowers either in the evening or early in the morning, so that they may be protected from the heat of the sun while being taken to the market.

#### CABBAGE

HARVEST only such heads as are full and hard. Do not remove those heads which are still soft. If for some reason you are unable to harvest cabbages at the right time, you can prevent their bursting or splitting by deep cultivation or twisting the plants or raising them slightly up without actually digging them out. By this operation, the roots are broken and the plants will be unable to absorb moisture; the heads will not burst. Harvest your cabbages early in the morning.

**GET A BETTER YIELD FROM EVERY FIELD**

#### RADISH

HARVEST radish when the roots are still tender and crisp. Pull it out with its leaves and wash it to remove the soil. The fresh white appearance of the roots with the green leaves will get have a ready market.

#### TURNIP

HARVEST turnips when they are three to four inches in diameter on the upper side. If you allow them to grow bigger, their quality suffers. Harvest turnips in the evening.

#### CARROT

HARVEST carrots when they are 1 inch to 1½ inches in diameter at the upper end. If you have planted them on flat beds, remove the tops close to the ground and dig them up with a spade. If, however, you have grown them on ridges, pull them out with their tops after loosening the soil with a spade. Remove the leaves and wash them clean. Cut the side roots before you take them to the market.

#### PEAS

HARVEST peas when the pods are well filled. See that the peas inside are tender and are becoming light-green in colour. Do not injure the plants while you pick the pods, for then they will stop bearing new pods.

#### TOMATOES

If you want to pick tomatoes for your home use, do so when the fruits are red or pink and firm. If you want to market your tomatoes, pick them a bit early when they start turning pink. If the market is a little away, it is better to pick them when they are still green but fully developed. While picking tomatoes, avoid injury to the stem or fruits.

*Pusa Sawani*, an improved variety of *bhindi*, is helping Shri Badri Narain Barwale of Jalna village in Aurangabad District of Maharashtra State, earn a very good income. He raises the crop for seed and sells the seed to other farmers.

# THE BARWALE'S WAY OF MAKING MONEY WITH **IMPROVED BHINDI SEED**

By L. VENKATARATNAM

*Pusa Sawani*, evolved at the Indian Agricultural Research Institute, New Delhi, is a variety which is not harmed by the leaf vein mosaic disease. Apart from this, *Pusa Sawani* is also a good yielder. That is why there is a good demand for its seed throughout the country.

Shri Barwale came to know of this variety when he visited the World Agricultural Fair held at New Delhi two years

Shri Barwale takes good care of his crop by protecting it against pests and diseases

back. He realized that *Pusa Sawani* could be a good money-earner for him.

He brought one kilogram of *Pusa Sawani* seed and started his seed-farm. Today, he has 14 acres under *Pusa Sawani* seed-crop, giving him 6,000 kilograms of seed.

Every care is taken by Shri Barwale to produce high quality seed. He applies 13 cartloads of cattle manure and four hundred-weights of superphosphate per acre. He also top-dresses the crop with ammonium sulphate at 1/4 ounce per plant.

He raises his crop in lines, two feet apart. In the first week of July, just after the first shower, he dibbles two seeds at each hill spaced one foot apart.

He takes all the precautions to keep the pests and diseases away. He sprays his crop with a solution containing 1 ounce each of 'Endrin,' wettable sulphur, and a copper fungicide diluted in 4 ounces of water. He gives about 8 to 10 sprays till the pods mature.

When the plants have nine pods on each, he pinches off the growing tips of the plants and thus hastens the maturity of the pods.

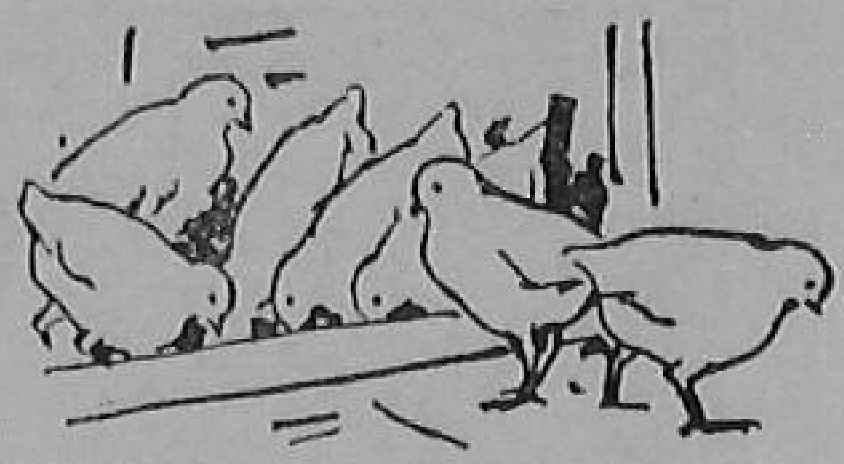
In about 110 days, the crop is ready for harvest. When the pods are completely dry (the germination will go down if the pods are not completely mature) he picks the pods, and gets them dried and split.

To select plump and healthy seeds for sale, he floats the seeds and takes only those that sink to the bottom. He stores the seed only after drying them well.

This is how Barwale's luxuriant *Pusa Sawani* crop looks at the podding stage

Shri Barwale's *Pusa Sawani* seed-farm has proved to be a big success and is very popular with the vegetable-growers.

# Try DRY VITAMINS IN YOUR POULTRY FEED

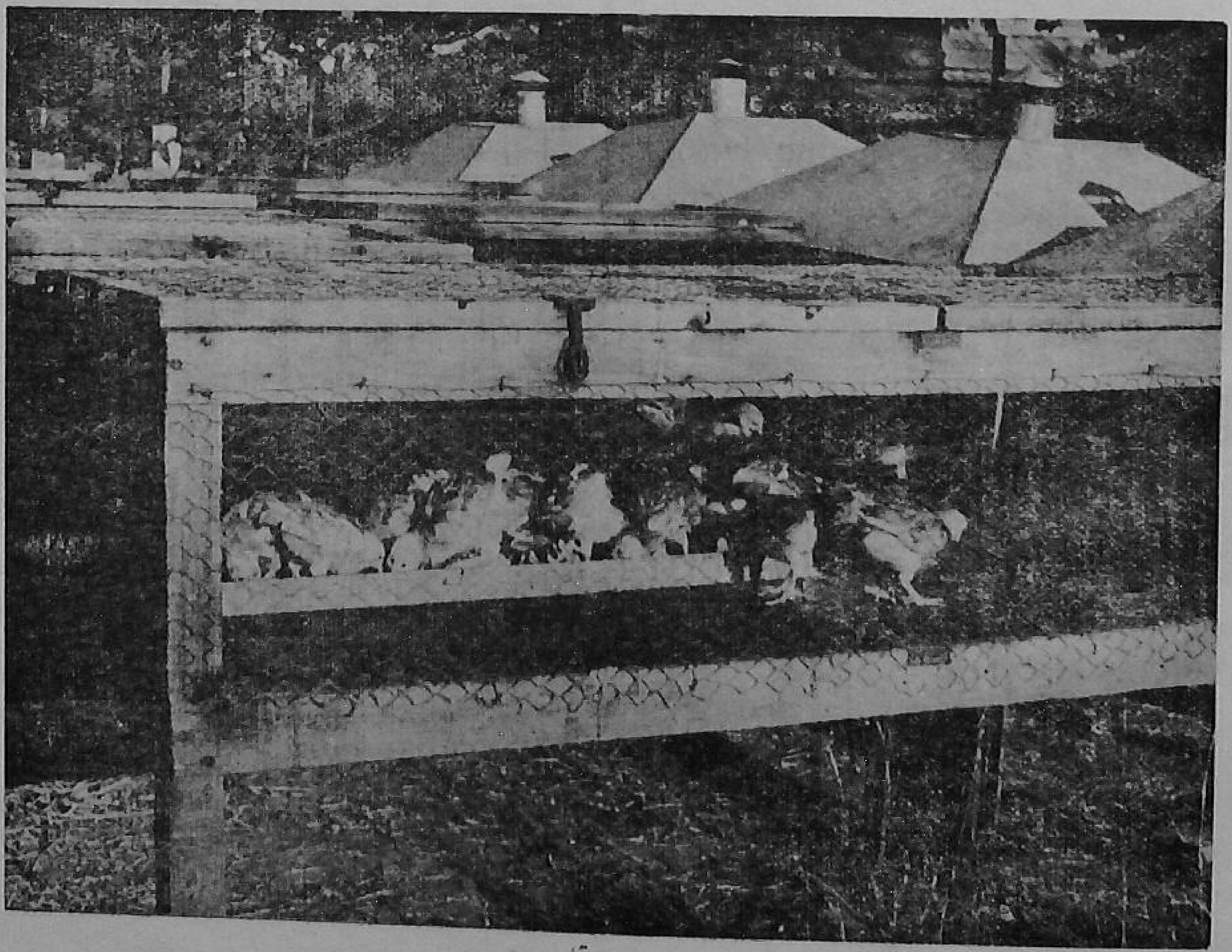


By N.S. GAREWAL and S.G. IYER

To a good poultry-keeper a well-balanced poultry feed consisting of carbohydrates, proteins, fats, minerals and vitamins is a costly item on the expenditure. For the cost of feed alone comes to as much as 60 per cent of the total cost on the upkeep of birds. You, as a poultry-keeper must, therefore, be wanting to cut down on the feed expenses without of course impairing the health and efficiency of the flock.

The cereals and their by-products together with the vegetables and animal proteins that you normally feed to your poultry, do not,

Poultry birds raised in confinement need to be provided with vitamins in their diet



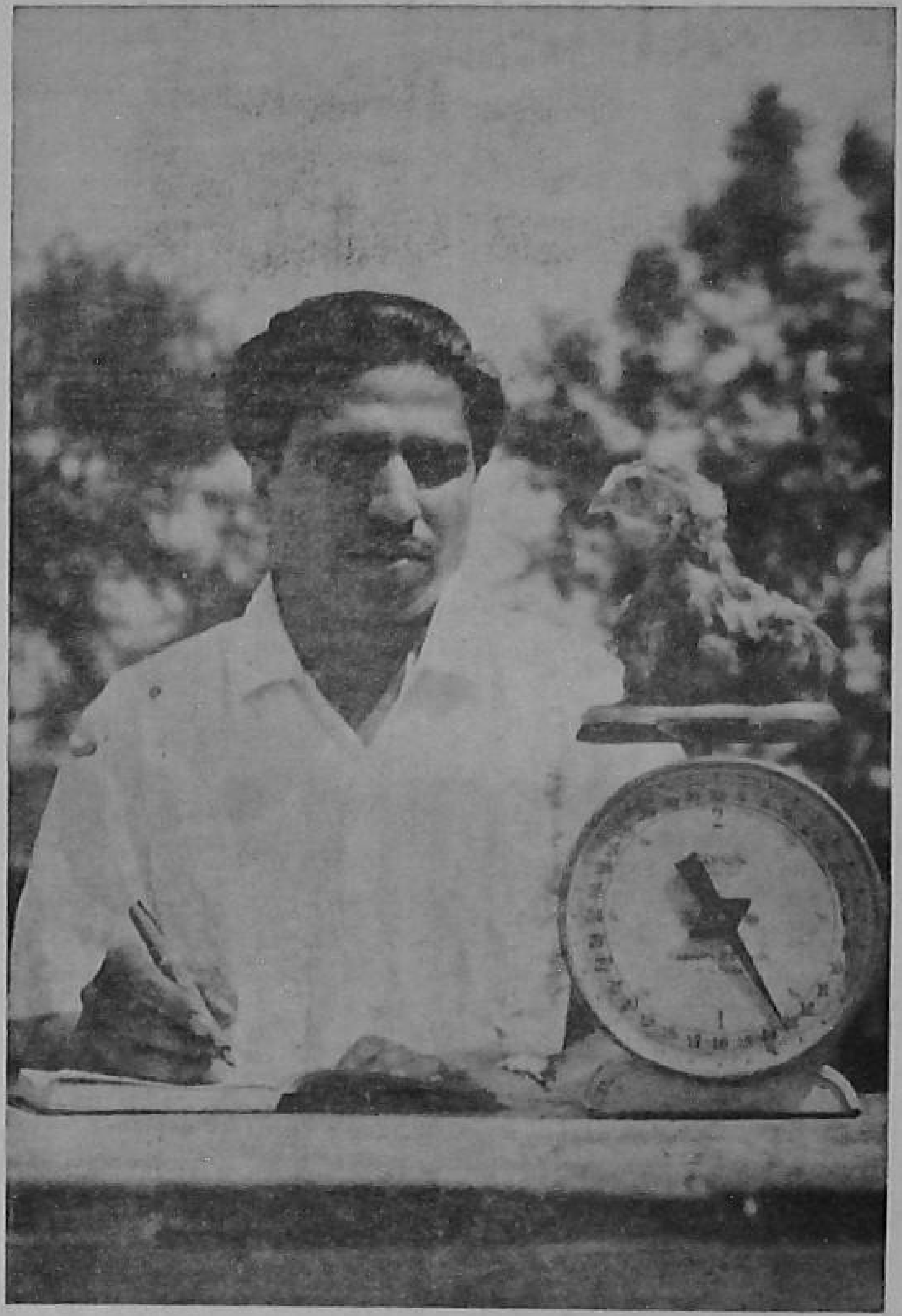
however, provide enough vitamins to your birds. Vitamins, therefore, have got to be supplemented in the ration.

If you are keeping birds on range, they can secure most of their vitamin requirements from green grass and sunshine. Sunlight provides them with enough of vitamin D-3. But if you are rearing your birds confined to houses, they will not get sufficient sunlight. So you are to feed them with shark-liver oil. To supply Vitamins A, B1, E and B2 you may give berseem or lucerne in green or dry form. However, if you want good quality eggs from your birds and are anxious to avoid cold or other common diseases of the wind-pipe in your birds, you must feed them with greens.

The modern method, however, is to feed all-mash ration to your poultry which has come into a wider use because of its great simplicity. But even to the all-mash ration, you must add the vitamin supplements.

Green feeds and veterinary grade shark-liver oil are of course a very good source of Vitamins A and D3. If fresh greens are available, there is no need for any substitute, as these are a good source of different vitamins. They are quite cheap too. But then, greens may not always be readily available, as is the case in summer. The shark-liver oil also turns bad if not properly stored. Moreover, it is costly and thus increases the feed-bill. So the provision of essential vitamins for your birds is a real problem to many of you.

Here is where the dry vitamins come in. Experiments were conducted at the Government Model Poultry Farm, Delhi, to find out how the feed containing dry Vitamins A and D-3 compared with the feed containing shark-liver oil. It was found that the birds fed with ration to which dry vitamins were added, gave a good number of big eggs and grew well. Such a dry vitamin supplement was nearly 82 nP cheaper for every hundred pounds of mash as compared with shark-liver oil ration. Dry vitamins, therefore, are a very good substitute for the green feed and shark-liver oil. So why not try dry vitamins in your poultry feed this time !



Birds fed with a dry-vitamin-ration grow well

# GLYRICIDIA —A SUITABLE SUPPORT FOR PEPPER

By C. A. THOMAS

GLYRICIDIA gives a good green manure, makes a nice shade-plant for tea or coffee and is excellent as a support for pepper vines.

Farmers who have used glyricidia as support for pepper say that by training pepper on glyricidia they are able to raise their pepper-profits.

Glyricidia, being a quick-growing plant, stands frequent loppings well. Its foliage also can meet the manurial needs of the vines to some extent. It grows to a height of 15 to 20 feet in about three years.

Glyricidia is a complete organic manure. Its leaves contain nitrogen, phosphoric acid and potash.

Glyricidia can be grown on any soil and is especially good for growing on hilly slopes. It is very easy to grow too. Plant the cuttings and you won't have to take any special care afterwards. The only thing you have to do to make it suitable as a support for pepper is to prune it regularly.

Begin prunning when the plant is about six feet in height. Cut off the lateral branches growing from the lower sides, leaving only

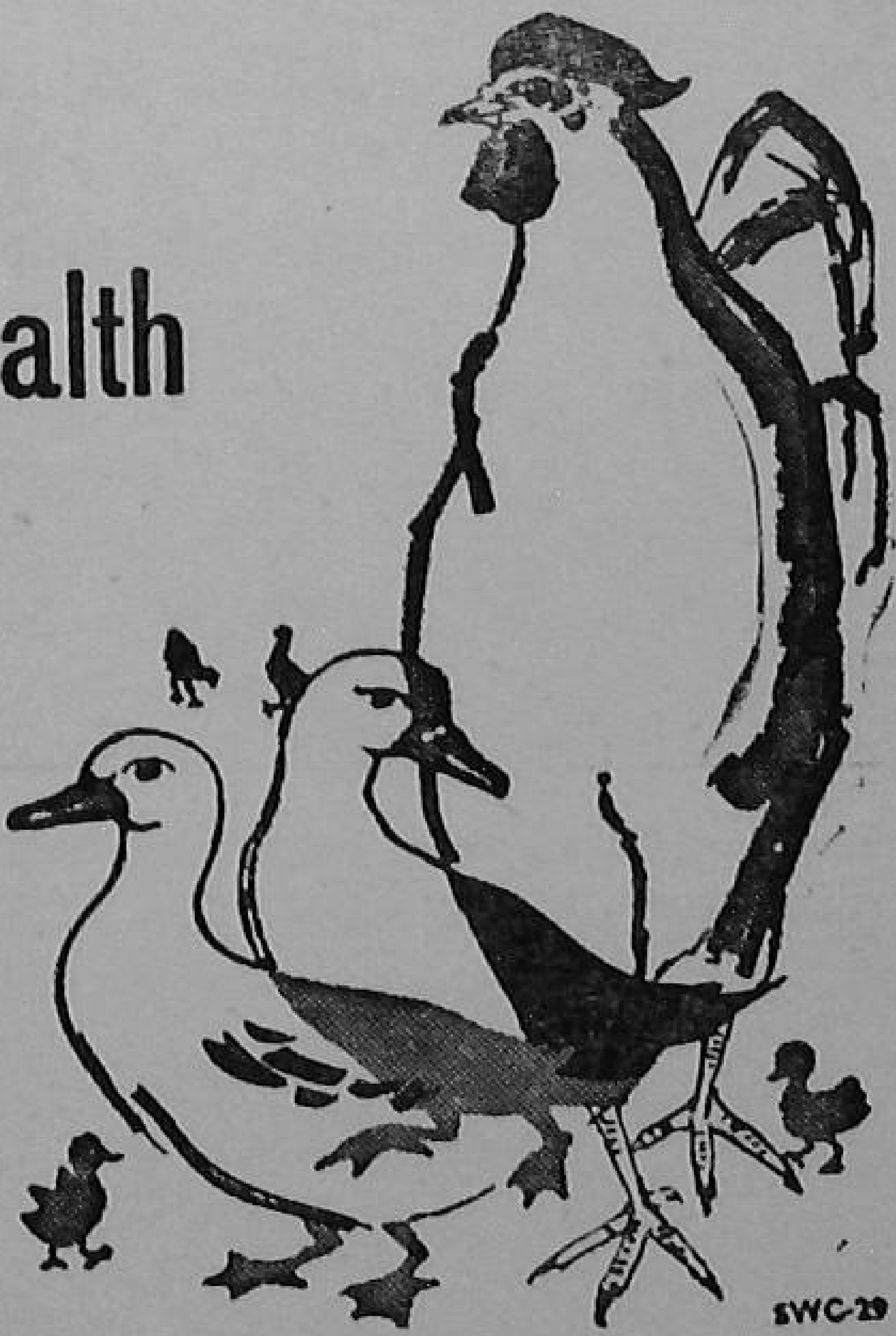
two healthy branches to grow. Better top these branches to prevent the plant from becoming too high and getting uprooted due to strong winds. Repeat the pruning this way till the plant reaches its full height. You can use these pruned branches for raising a new plantation.

As the stem of glyricidia is smooth, very often the vines get detached from the plant. Hence, you have to tie the vines regularly to the stem to prevent them from loosely hanging or falling down from the standard. You have to do this right from the time when the vines get established till they reach the top of the stem. When the vines grow and spread over the branches, they cling on to the support quite firmly with their roots and hence the tying up is not required.

Because of its many advantages, glyricidia is becoming popular as a standard for pepper vines now.

In Kerala, glyricidia has become quite popular as a support for pepper


# keep your poultry in good health



**Keep your poultry in good health and promote growth and egg production with 'Star' Brand Poultry Mineral Supplement which contains essential minerals and vitamins such as Calcium, Phosphorous, Manganese, Vitamins A, $B_2$, $D_3$ etc. which are often deficient in poultry foods.**

**The addition of only 3% of 'Star' Brand Mineral Supplement to poultry feeds will produce a product conforming in mineral and vitamin contents to Indian Standards Institution specifications.**

**STAR ✡ BRAND**

**SHAW WALLACE & CO. LTD.**

**Calcutta Madras Bombay New Delhi**

SWC-29

# THE 'PACKAGE' COMES TO BISHANPURA

An Agricultural Extension Officer tells Jayaram Tiwari and two other progressive farmers how 'Pakage Programme' can help them in better farming

No ONE visiting Bishanpura village in Shahabad District in Bihar can miss meeting Jayaram Tiwari, a hardy farmer in his early forties. And he has a story to tell.

As you move along in the village and meet other farmers, including Kirtyanand Tiwari, the village Mukhiya, the story is repeated. The theme of the story is, 'Since the last year, we farmers have had a new future opened up for us.'

The year before signifies the year the village was brought under the Intensive Agricultural District Programme, or the 'Package Programme' as it is popularly called. Shahabad is one of the first seven districts in the country to be brought under the Programme.

And the Programme, to Jayaram and the other farmers—twenty of them of the forty-two in the village—was a year of education in better farming and higher income.

#### NEW CROPPING PATTERN

The Package Programme staff that visited the village instilled in these farmers a new idea of cropping. They impressed on them that

instead of the traditional wheat and gram mixture in *rabi*, they should grow pure crops of irrigated wheat and gram, and in *kharif* they should raise an early potato crop followed by onions and maize. This the farmers did, and found that they had more yields and their income almost doubled. For the first time, these farmers learnt to plan their cropping system.

### MORE FERTILIZERS

In the previous years they had used but a small quantity of ammonium sulphate for their irrigated *kharif* paddy. They were now told of the utility of 'balanced' fertilizer for crop growth, and were helped to get the fertilizer, and also shown the method of using it.

Fertilizer consumption almost doubled within a year in the District. There was a greater use of phosphatic fertilizer—almost six times than that in the previous year. The use of fertilizer mixture and potash which was hitherto unknown in the area, was taken up by the farmers for the first time.

### EASY CREDIT

The Multipurpose Co-operative Society of the Bibiganj village enrolled these farmers as new members, and helped them with the credit needed for purchasing their seed and fertilizers.

### HIGHER YIELDS

Jayaram Tiwari was one of those who harvested a 26-maund paddy crop (as against 10 maunds he obtained only a year earlier) and 300 maunds of 'Up-to-date' potato as against the usual 100 maunds of the local variety.

### OTHER VILLAGES TOO

The story of Bishanpura is typical of what is happening in the 2,000 villages that have come under the Programme in the Package District of Shahabad. Today, over 35,000 farm families are actively participating in the Programme.

### SEEING IS BELIEVING

The Intensive Agricultural District Programme lays special stress on demonstrations. It has proved to be a good method of convincing farmers about the superiority of improved crop practices over traditional agriculture. Last year, 1,455 such demonstrations on paddy, 1,499 on wheat and 1,417 on other crops including potatoes were laid out in the District.

### IMPROVED PRACTICES

The use of better seed—the first step in inproved crop production—went up as never before in the District. Supplies of improved wheat seed alone jumped up to 4,560 maunds in 1961-62 from 1,517 maunds in 1960-61, and seed potato to 3,850 maunds from 485 maunds.

The advantages of soil testing have also caught the imagination of Shahabad farmers. Many of the farmers had their soil samples taken for analysis, so that they could know how best they could manage their soils. Nearly 1,860 such soil samples were taken and 614 of these were tested. Recommendations based on these were passed on to the farmers concerned.

Crops on all farms received better protection from pests and diseases. Consumption of pesticides rose from 13,200 pounds in 1960-61 to nearly 52,000 pounds in 1962.

Credit, an important need for increased farm production, was available to farmers in a greater measure. In 1961-62, Rs. 27 lakhs were advanced as short-term loans (it was about Rs. 8 lakhs in the previous year) and Rs. 6 lakhs as medium-term loans (against Rs. 2.2 lakhs in the previous year).

Seventeen new marketing societies were formed to deal with the marketing of farm produce. Similarly, to store supplies and produce, 35 new godowns were under construction in addition to the 23 already constructed and 31 taken on hire.

The Package Programme has, as in Bishanpura, brought in a new note of confidence among farmers about what they can do by way of improving their farm production and income. As Jayaram Tiwari said, "They have shown me the way. I am now convinced that with improvements, I can earn much more from my 4½ acres than I ever thought I could."

Farmer Jayaram Tiwari knows that weeding is as important operation as any in maize cultivation

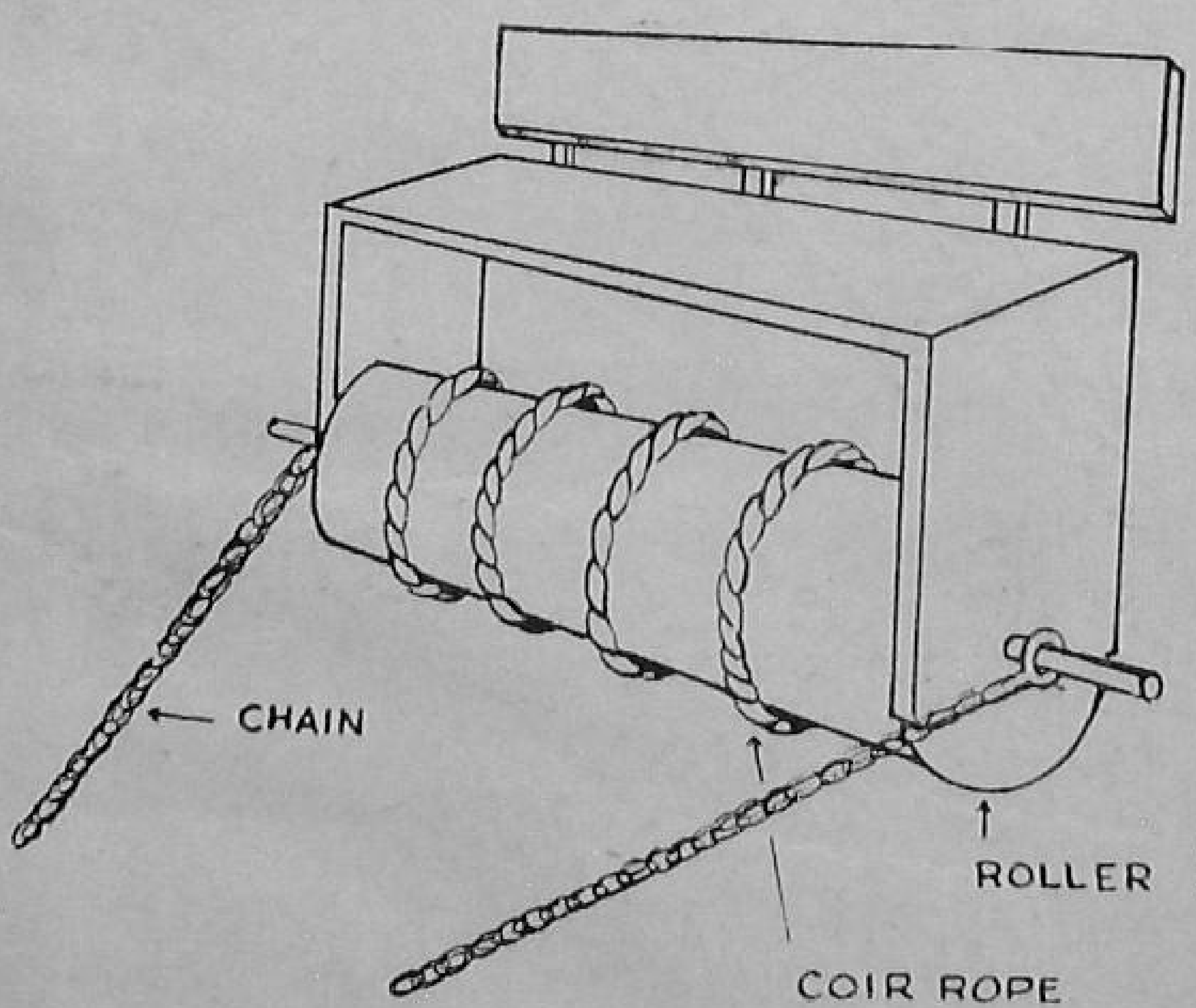
THE

# *Newer Implements* FOR THRESHING AND WEEDING PADDY

By D. N. KHERDEKAR

### THRESHING ROLLER

FOR the last two years, many farmers in Raipur (Madhya Pradesh) are using a new implement for threshing their paddy.



Threshing roller

This new implement—a threshing roller—was designed by the Agricultural Department and is an answer to the farmers' demand for a simple bullock-drawn thresher for paddy.

Costing about Rs. 80 to 100, this implement has proved a big success. However, the threshing roller is being further improved to make it suitable for use all over the country.

### RAIPUR PADDY WEEDER

From Raipur comes another new implement—Raipur Paddy Weeder. The weeder is useful for working on light soils.

The construction of this weeder being simple, it can easily be made by a village blacksmith or carpenter. It costs ten rupees.

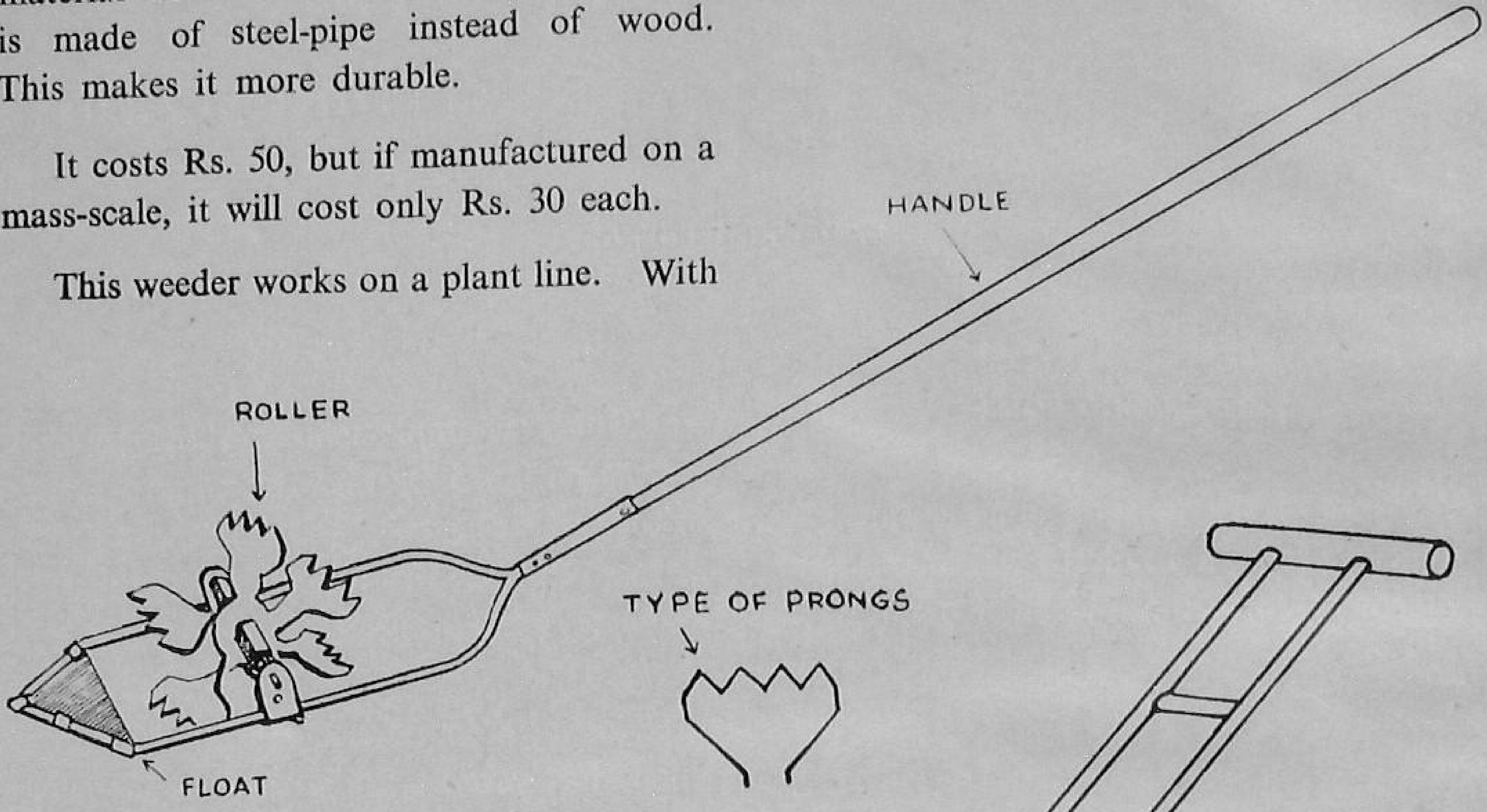
### DRUM-TYPE WEEDER

For weeding paddy, another new implement is now being manufactured, though on

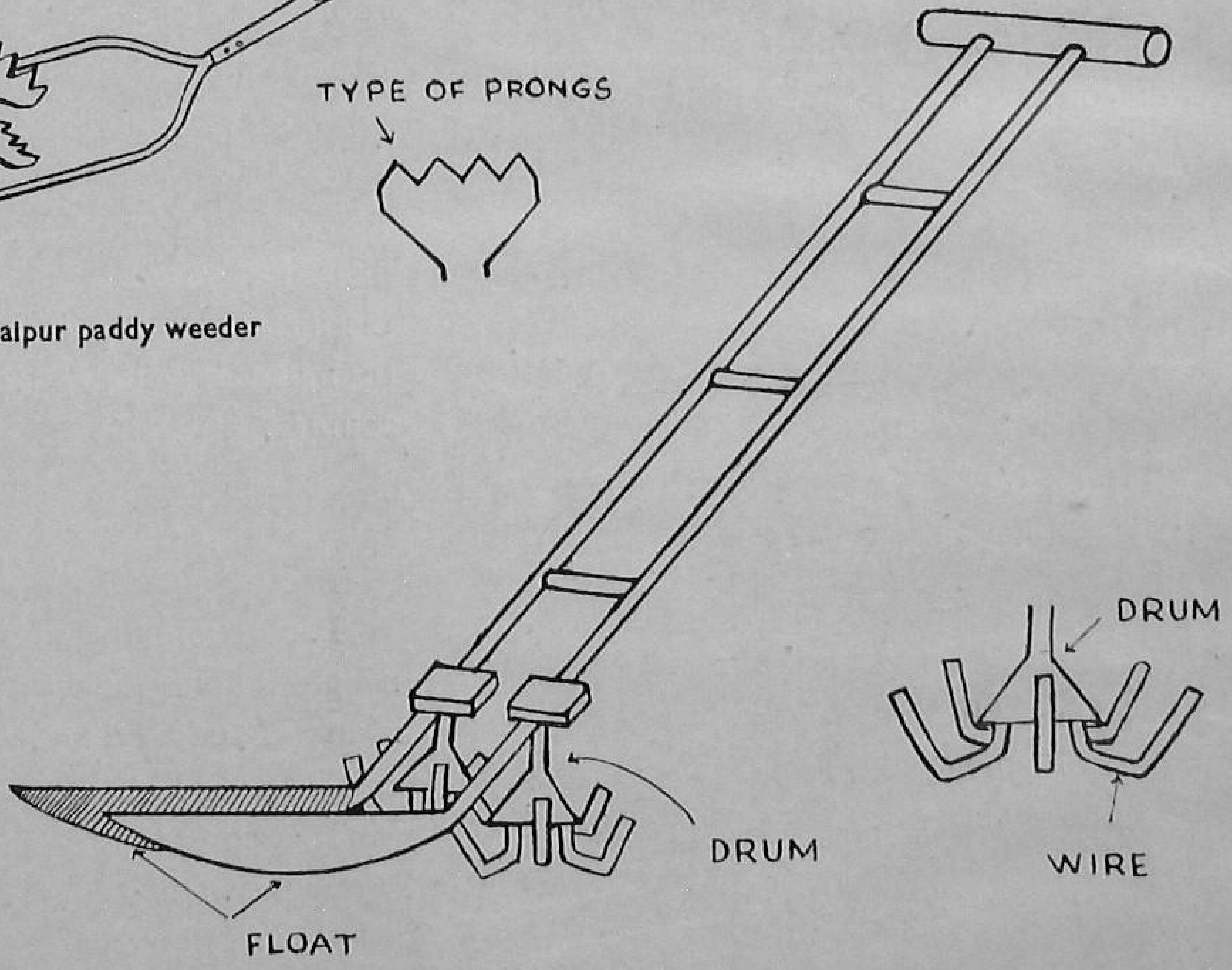
a prototype basis. Known as Drum-type weeder, it is designed after the Japanese type weeder. The difference is only in the material used for its construction. This one is made of steel-pipe instead of wood. This makes it more durable.

It costs Rs. 50, but if manufactured on a mass-scale, it will cost only Rs. 30 each.

This weeder works on a plant line. With



Ralpur paddy weeder



Drum-type weeder

it, one can stir the soil very close to the plants without the fear of uprooting them. In fact, it does the work as good as your hands can do.

Japanese paddy farmers who came for experimenting the Japanese technique of paddy cultivation the Indian soil in Saharanpur, Uttar Pradesh, claim that by using this weeder they could get more tillers than by using a weeder which works in-between the rows.

This paddy weeder is to be used alternately with the one that works etween the rows.

# THE RIGHT THINGS TO DO FOR PESTS AND DISEASES OF POTATO

By D. B. REDDY

Now is the time to be extra watchful of your potato crop. Potato yields will go down badly when pests or diseases attack the crop. Here are some tips that will help control the important pests and diseases of the crop.

If your crop is at an early stage of its growth, you may find small, brown to almost black, and more or less circular spots appearing on the lower leaves. In the older spots, you may see black circular rings. You can then take it that your crop has been attacked by early blight.

If, however, your crop is fairly grown up and you are in a hilly region you may find water-soaked areas appearing on the tips of leaves. These spots turn brown and finally black. You will find a whitish or greyish hazy growth round the margins of these spots on the lower sides of the leaves. If the weather is cloudy, the spots will spread and develop very rapidly. Within a day or two you may even find your plants dead and rotten, giving out a foul smell. Know it for certain then that your crop has been attacked by late blight.

Whatever may be disease—early or late blight—start spraying 5:5:50 Bordeaux mixture or any copper fungicide containing 50 per cent metallic copper at one pound in 20 to 25 gallons of water. You can also use 'Zineb' at one pound in 50 gallons of water. Spray every 10 to 15 days till your plants are mature.

You may find some tiny green insects in early hours of morning in your potato crop. These are the harmful aphids and jassids that suck the juice of potato plants and carry virus diseases, which as you know cut down your potato yields.

To control, spray your crop with 0.02 per cent 'Parathion' or 'Endrin.' You can add 0.1 per cent DDT and 0.1 per cent BHC to the Bordeaux mixture or a copper fungicide solution and spray on the crop every 10 or 15 days. This will control the diseases and the insects effectively.

If you happen to see the young leaves of potato plants rolling up or if they show yellow and green patches, uproot such plants and destroy them ; because these plants have been attacked by virus diseases and will give practically no yield but only keep on spreading the disease to other healthy plants and causing more loss.

Remember that this is the spraying time for you. Start doing it before any damage is done to your valuable crop. It is better to practise spraying as a routine for it helps in controlling the pests and diseases, resulting in bigger potato yields.

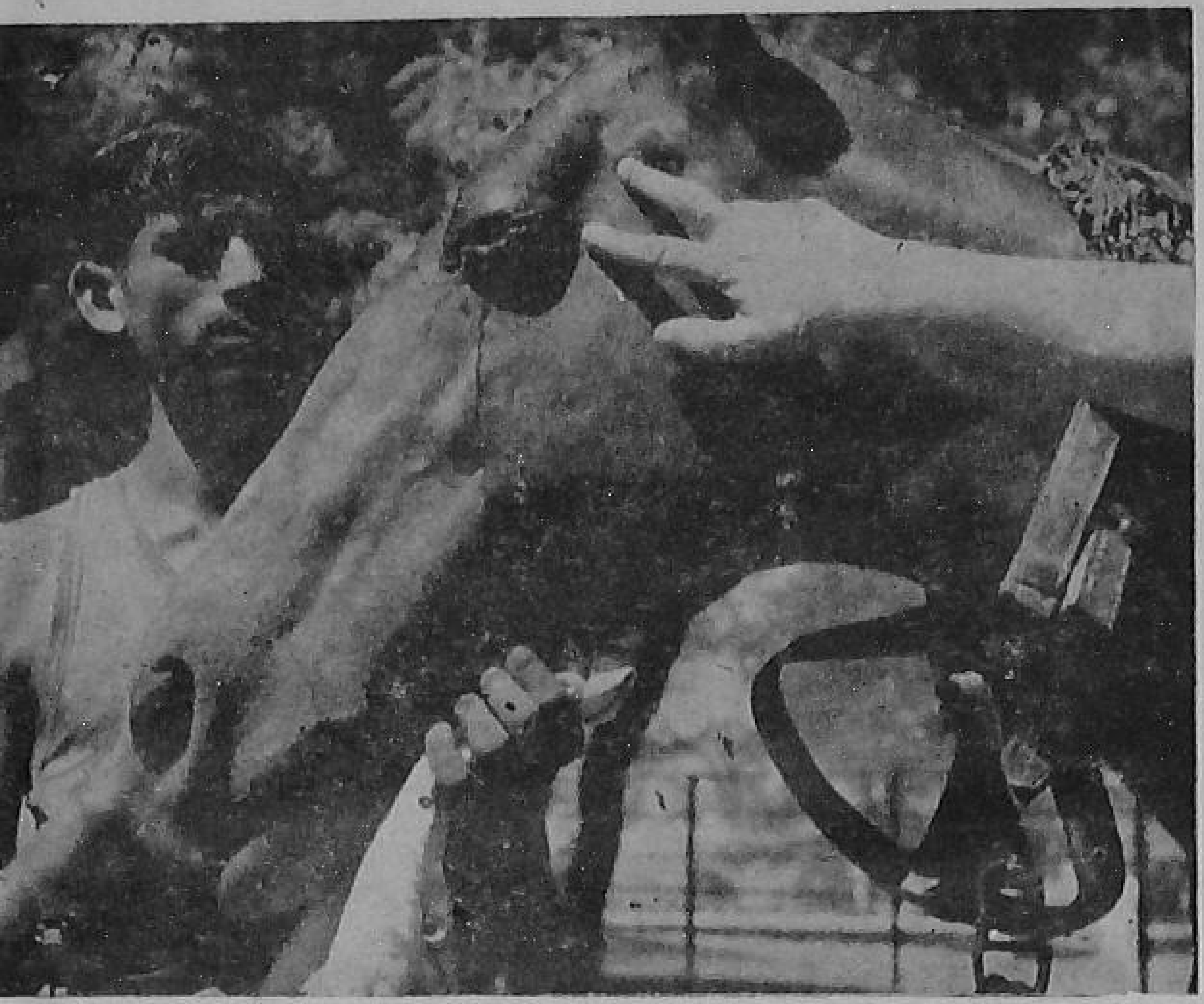
# THE AFRICAN HORSE SICKNESS

## HOW TO PREVENT AND CONTROL THE DISEASE

By K. G. MAHINDRU

SEVERAL thousands of horses in our country died in the last two years of a new disease. This disease, called the African Horse Sickness, is caused by a virus. It also attacks mules and donkeys.

The disease is highly infectious and is carried to healthy animals by biting insects and by some types of mosquitoes and blood-sucking flies. The disease appears more during and immediately after the monsoon when



There is a swelling over the eyes of the affected animal

these insects are found in plenty.

### SYMPTOMS

Five to seven days after being bitten by insects carrying the germs, the disease appears on the animals. Animals then develop fever, running a temperature of 101° to 106° F. A swelling over the head and a running nose are the main symptoms seen. The swellings are easily seen over the eyes, near the nose and the lips and under the jaws. In some animals, the swellings may be seen also on the lower side of the belly or even on the legs. The eyes become red, with a swelling at the corners. The animals find breathing difficult though no coughing is seen. Some sick animals repeatedly tend to lie down and get up. They do not eat well. After the symptoms appear, the animals suffer for a few more days, usually for two to four days, then they die. Before death, the body temperature comes down to normal or even below normal.

Few animals suffering from the disease recover from it. Those that recover, however, do not get the disease again.

### PREVENTION AND CONTROL

There is no treatment for the disease. A vaccine which can make an animal immune to the disease is being produced at the Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh.

The animals become immune to the disease after three months of vaccination. Animals can be vaccinated any time during the year, but it is better to vaccinate the animals from March to May, just before the monsoon. Five c.c.s of the vaccine is given to a horse, donkey or mule or young stock of proper age, After giving the vaccine, the animals should be given rest for three weeks. Vacccinated animals may have a slight rise in temperature between the 14th and the 17th day after vaccination, as a result. No treatment for reaction is needed, as it will pass off by itself.

*Do not vaccinate animals in an advanced stage of pregnancy or those which have just foaled. Mares which have foaled should be vaccinated only after a month of foaling.*

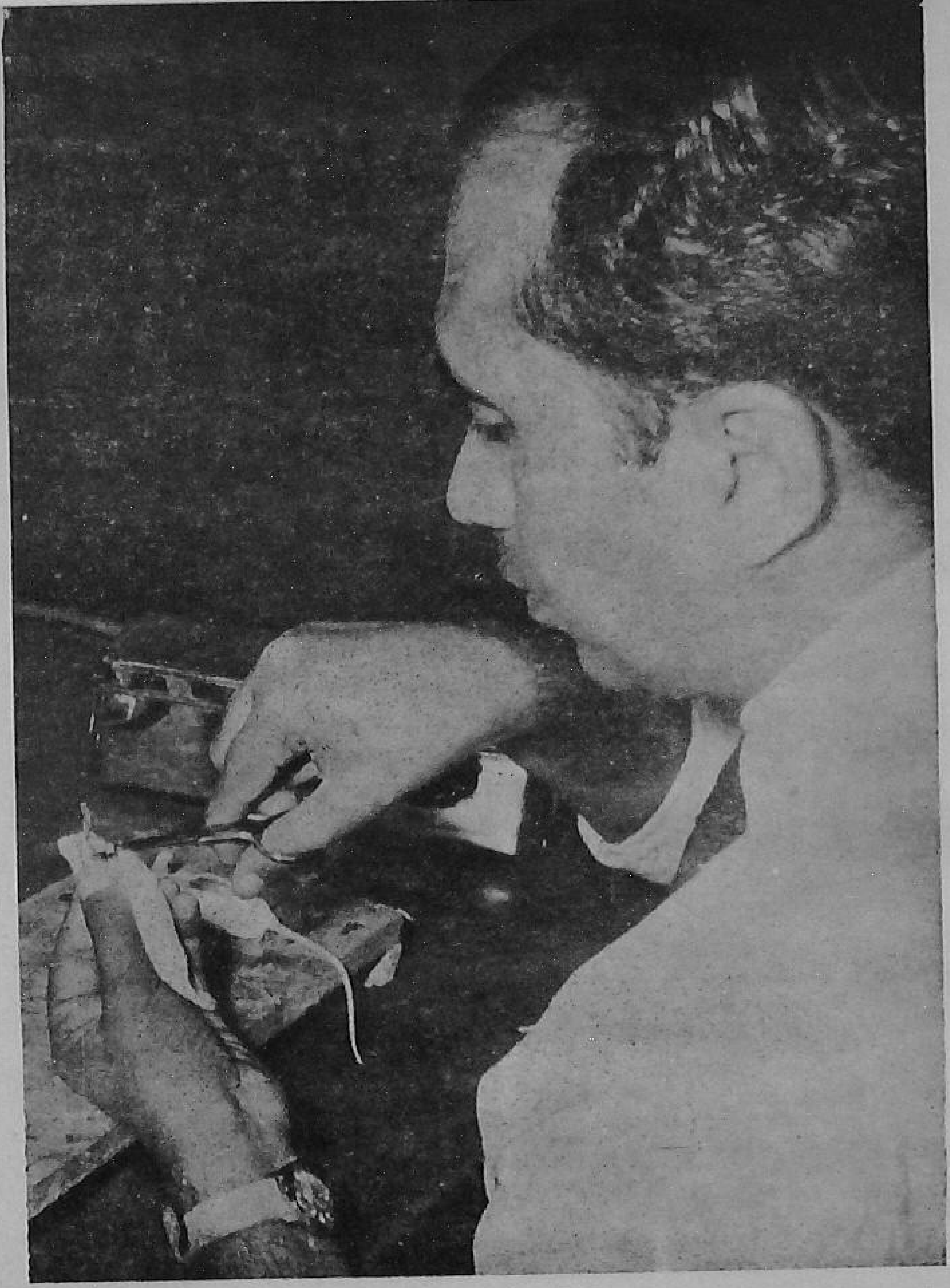
The vaccination is given free by the staff of all State Animal Husbandry and Veterinary Departments.

In addition, the following precautions should be taken to avoid the sickness :

* Keep the animals and their surroundings thoroughly clean.

Frothy discharge from the nose is yet another symptom of the disease

The vaccine to make the animals immune to the disease is made from the brain of white mice]



* Clean the stable regularly and spray insecticides to drive away insects. Wire-nets of fine mesh should be fitted, if possible, on the doors and windows of the stable so as to keep off the insects carrying the disease.
* The stable should be well-drained. Water, urine, etc., should not be allowed to stagnate near the stable. All cess-pools near the stable should be treated with Creosote oil to prevent the insects from breeding. If necessary, the animals should be moved to a well-drained highland during the monsoon. The dung and litter should be taken away from the stable.
* The animals should be groomed regularly. In highly-infected areas, the animals should be sprayed with an insect repellent or the same should be rubbed on their coat. The animals should not be put to work or allowed to graze after sunset. They are to be stall-fed in the evening.
* Carefully watch for any sign of the disease in your animals. If an animal is off-colour or develops temperature particularly in the evening, in the affected districts, it is a sure sign of African Horse Sickness.

IN SUCH A CASE, IMMEDIATELY CONTACT YOUR NEAREST VETERINARY OFFICER FOR HELP.

# AMMONIUM SULPHATE

## THE MOST POPULAR FERTILIZER

By A. K. DUTT

AMMONIUM sulphate is the most popular nitrogenous fertilizer with our farmers. As most of our soils are poor in nitrogen, a major plant food, farmers have been using it for good crop growth and yield.

Ammonium sulphate is a crystalline solid, soluble in water. It keeps dry and does not cake easily. It is sold in the market packed in gunny bags.

It contains 20.5 per cent nitrogen. Over and above that, it has 25 per cent sulphur in it.

### WHERE TO APPLY

You can use ammonium sulphate under different soil conditions and for almost all types of crops. It is especially beneficial to alkaline soils and those that need sulphur.

As it leaves an acid residue in the soil, you need to apply 110 pounds of lime for every 100 pounds of ammonium sulphate you add to the acid soils.

Ammonium sulphate does not work well in highly acid soils unless you lime them periodically. Also in soils where the bases of paddy plants become black and die due to what the scientists call 'sulphide injury', do not use ammonium sulphate.

### HOW TO APPLY

You can use ammonium sulphate both as basal and top-dressing. While applying the fertilizer, remember the following points.

* Wetland paddy likes nitrogen in the form it is found in ammonium sulphate.

* Nitrogen in ammonium sulphate is retained in the soil, even if puddled or water-logged, and is not lost by leaching.

* Ammonium sulphate when applied to water-logged soils, loses some nitrogen-part in it as gas after some time. So, application in split doses at the proper time of crop growth is more beneficial and effective than applying all the fertilizer in one dose.

* Ammonium sulphate application gives best results with controlled irrigation.

**Basal-dressing**

*For wetland paddy (rainfed and irrigated)*

Apply the fertilizer to the ploughed field at the time of puddling prior to sowing or transplanting paddy.

*For paddy, wheat, cotton, sugarcane, potatoes, vegetables, etc.*

Apply this fertilizer during the final tillage operation before sowing or transplanting and mix it well with the soil by a plough or a harrow.

**Top-dressing**

The fertilizer can be top-dressed best over standing crops when the leaves are dry. If the leaves are moist, mix the fertilizer with dry sand or soil before top-dressing. For widely-spaced crops, apply it between the crop-rows.

*For wetland paddy*

If you can control irrigation, drain out the field, apply the fertilizer, mix it with the soil, and follow immediately with an irrigation. Otherwise, apply the fertilizer to the standing water and mix it with the soil as you do for a rainfed crop.

*For dry land paddy, wheat, cotton, sugarcane, potatoes, vegetables, etc.*

When this fertilizer is applied to a moist soil, mix it with the soil.

When the fertilizer is applied to a dry soil prior to irrigation, avoid overirrigation.

When the fertilizer is applied to a dry soil under rain-fed conditions, do not mix it with the soil.

**FOOD**
*is a*
**MUNITION OF WAR**
*Don't*
**WASTE IT**

### HOW MUCH TO APPLY

Different crops need different amounts of nitrogen. The amount of ammonium sulphate which you may require to apply will, therefore, depend on the crops you grow, the type of soil on which you raise them and the cropping and manuring practices you follow.

Consult your local Extension Officer or Gram Sevak for specific fertilizer recommendations for your soil and crops.

### HOW TO STORE AND HANDLE

This fertilizer is available in 100-kilo bags. If it becomes necessary to store the fertilizer after you open the bag, tie it up carefully after the quantity of fertilizer required has been taken out.

And remember the following points.

* Do not open the bag until you need the fertilizer.

* Do not allow the bag to come in contact with the damp or moist floor.

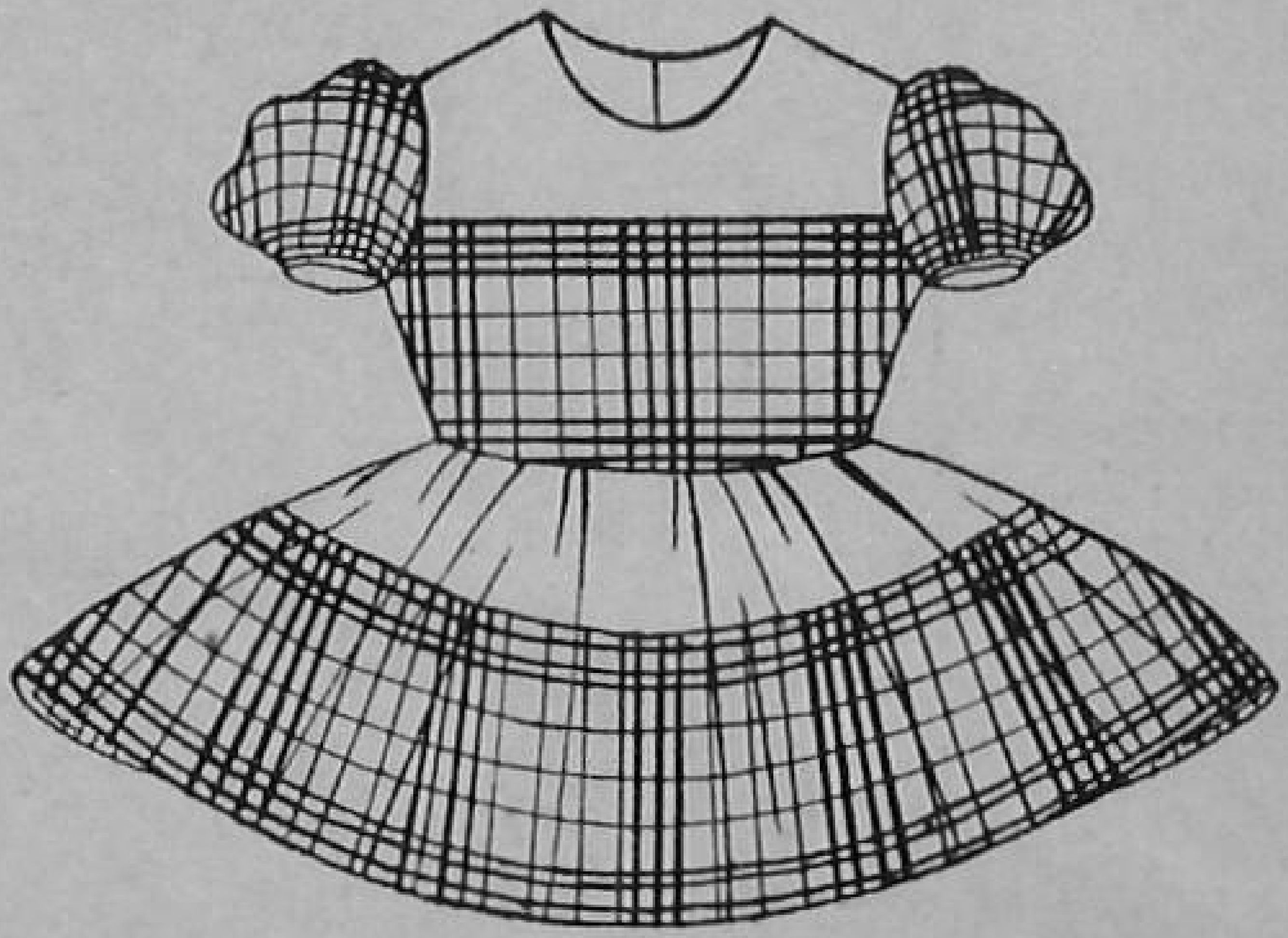
* Do not keep extra weights on the bag.

* Store the bag in a cool and dry place.

# A NEW FROCK FROM AN OLD ONE for your little girl

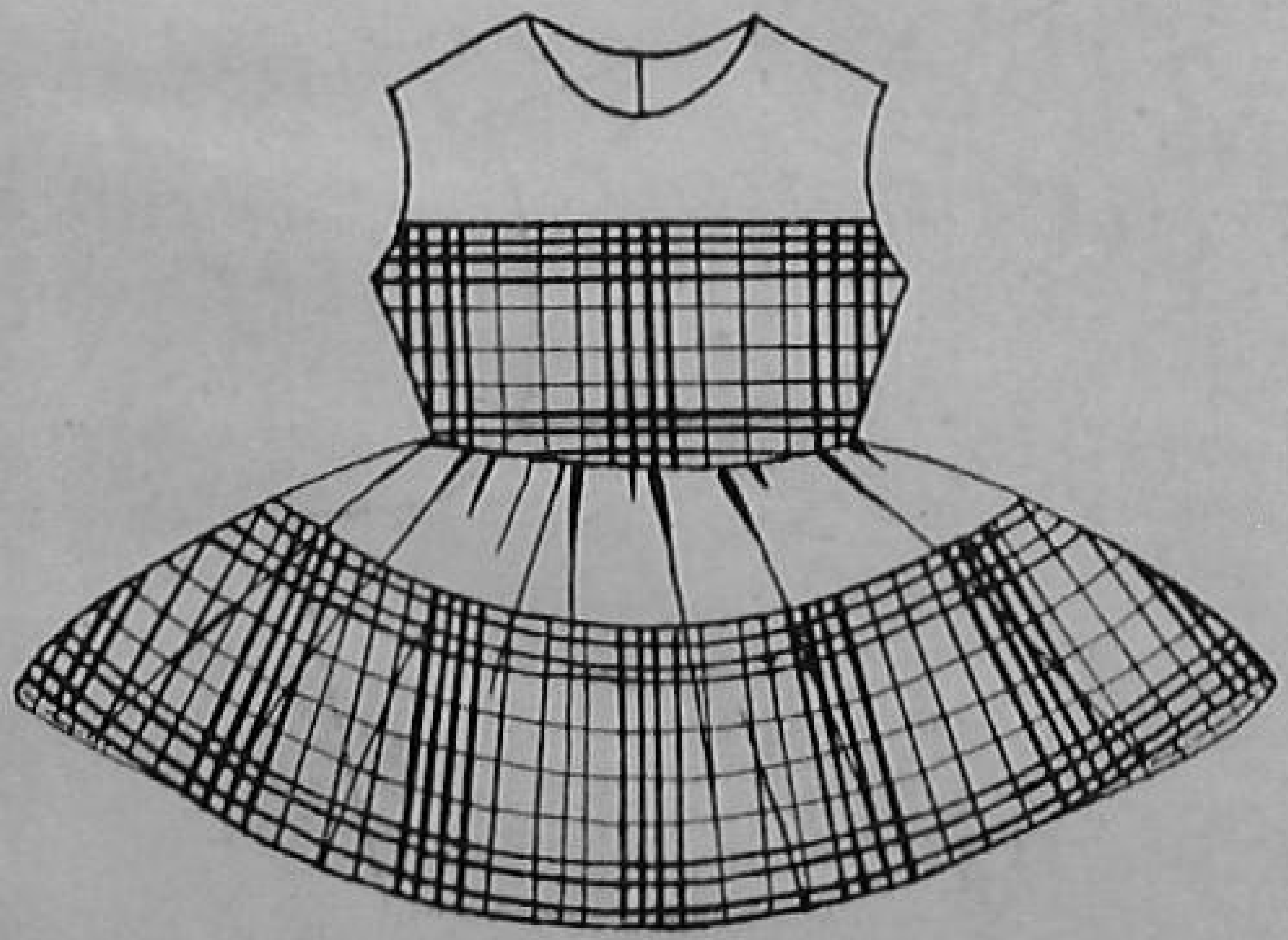
By KANTHIMATHI KUMAR

IT OFTEN happens that your little girl's frock which is not so worn out as to be thrown away, is still unusable because it has some frayed spots. This presents quite a problem if such spots are too many to be darned and mended.



(Fig. 2) The frock with sleeves

Here is a way to turn that frock into a new one. You can either make it with sleeves or without sleeves. The one with sleeves is smart; the sleeveless one is cool and comfortable. Both the designs bring out the colour combination to advantage.

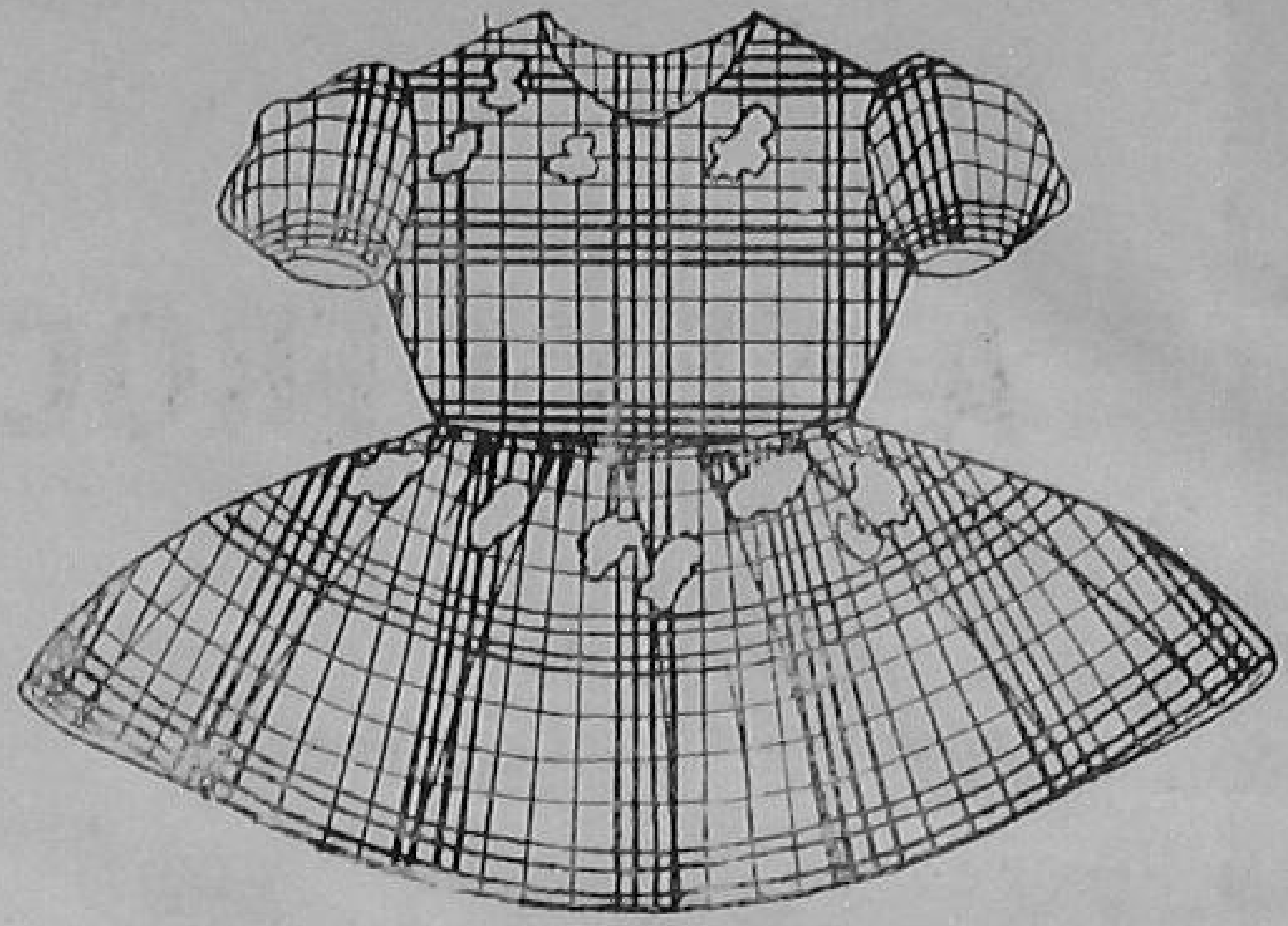


(Fig. 1) The frock without sleeves

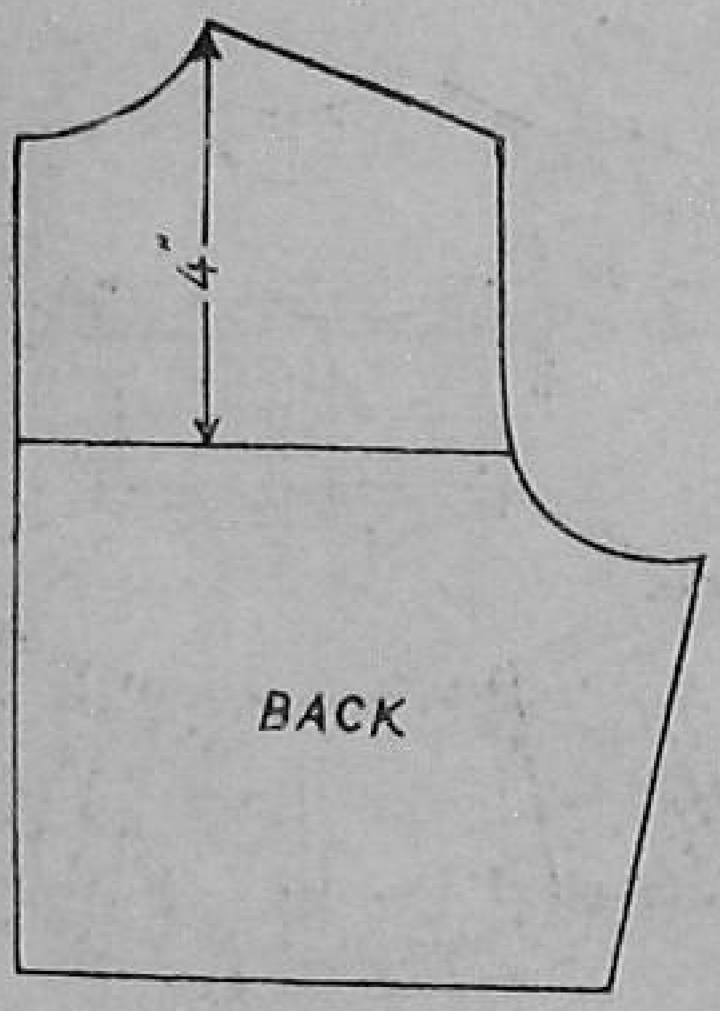
Here we are taking as an example a frock (Size—20″ chest) which has some frayed spots in the front below the neck and some in the skirt as indicated in the diagram (See Fig. 3).

You can take either of the new patterns shown in Fig. 1 and Fig. 2. The same idea can be applied to make new frocks from old frocks which are good.

The original frock is of a green fabric with checks consisting of pink, blue, lime-green and white stripes. For renovation, the checked fabric is combined with plain lime-green material.



(Fig. 3) The old frock




(Fig. 4a) Back of the bodice

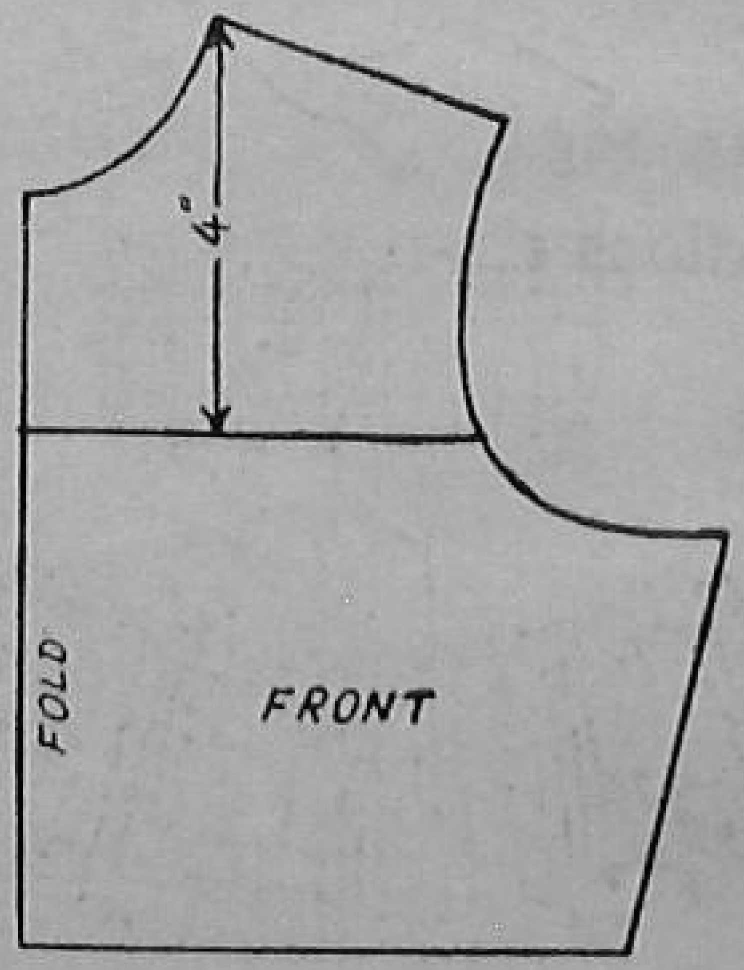
## How to alter the old frock

Open out the seams at the arm holes, the waist-line, the neck-band, the button-bands, the shoulders and the sides of the bodice. Detach the sleeves, the skirt and the front and the back of the bodice. Rip open the gathers and the side-seams of the skirt. Iron the different pieces of the frock properly.

## Measurements of the original frock

Length 18″; Waist length 8″; Chest 20″; Waist 19″; Shoulder width 8″; Sleeve length 4″; Sleeve band 7½″.

*Material required for either of the new patterns:* 3/8 yard of plain fabric of 27″ width, to match the material of the old frock.

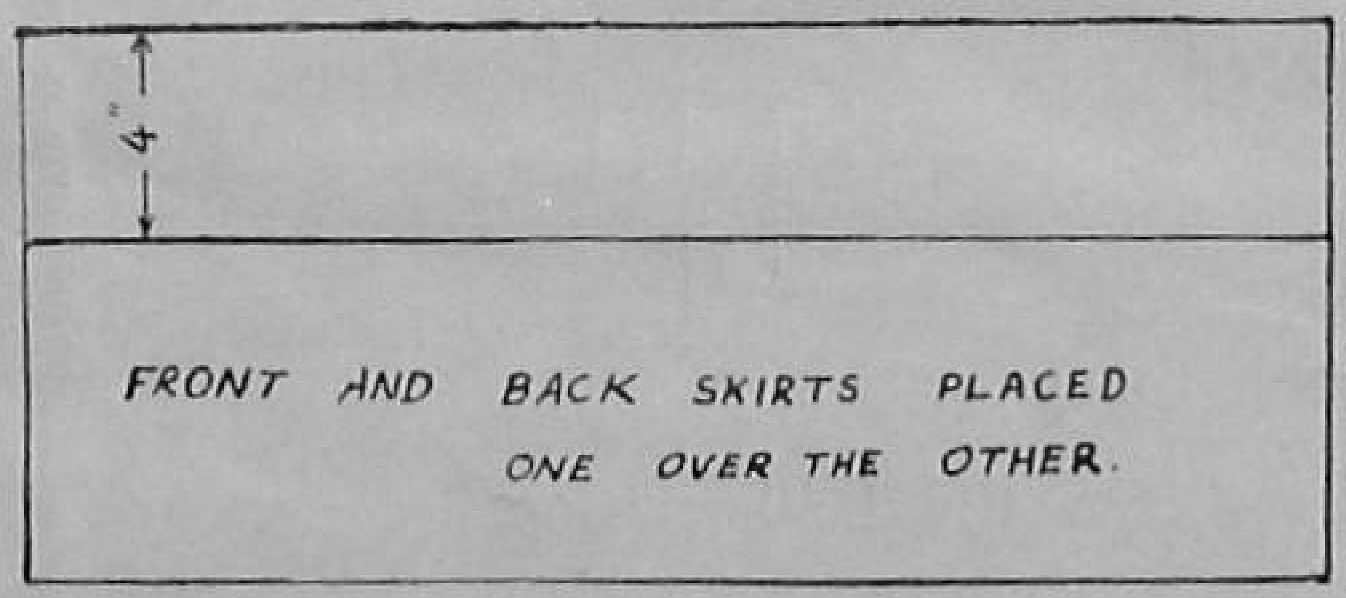



(Fig. 4b) Front of the bodice

Fold each of the front and the back bodice double across the body-width and measure down 4″ from the highest point of the shoulder-line, and cut across the bodice-pieces as shown in Fig.4a and Fig. 4b.

Place the front and the back skirts one over the other and cut away 4″ of material from the top of the skirts (Fig. 4c.).

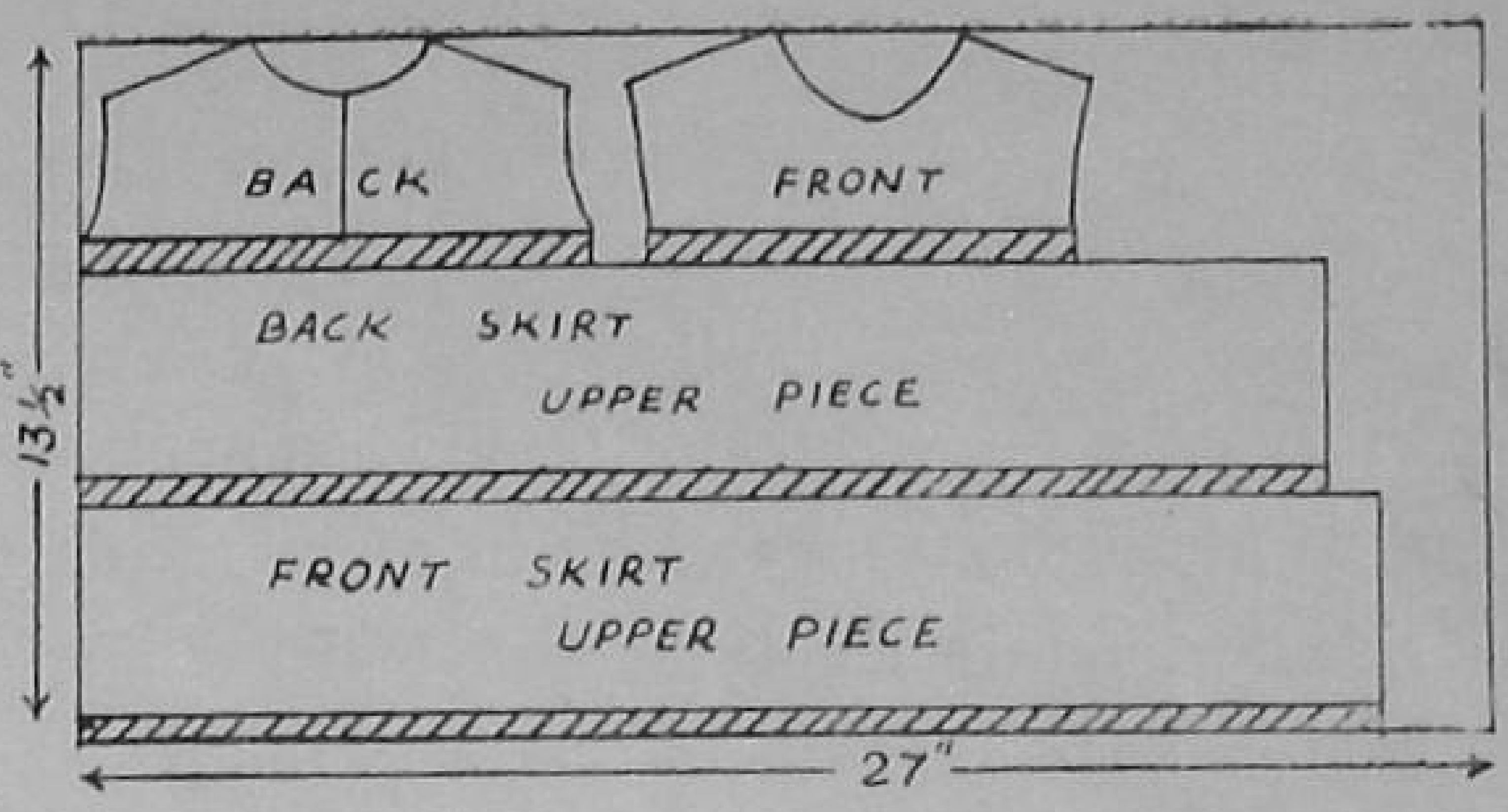
Pin the pieces cut from the skirts and the back and the front of the bodice to the plain matching fabric and cut the pattern pieces, allowing ½″ more at the lower end of each




(Fig. 4c) This is how you cut old skirt pieces

pattern (See Fig.5) . In the diagram, the shaded portions represent the extra material allowed.

Attach the upper portions of the bodice-pieces cut from the matching fabric to the lower portions of the original bodice, allowing 3/8″ for the seam. Make the shoulder-seams, allowing 3/8″ for the seams.




(Fig. 5) Layout of the pattern pieces

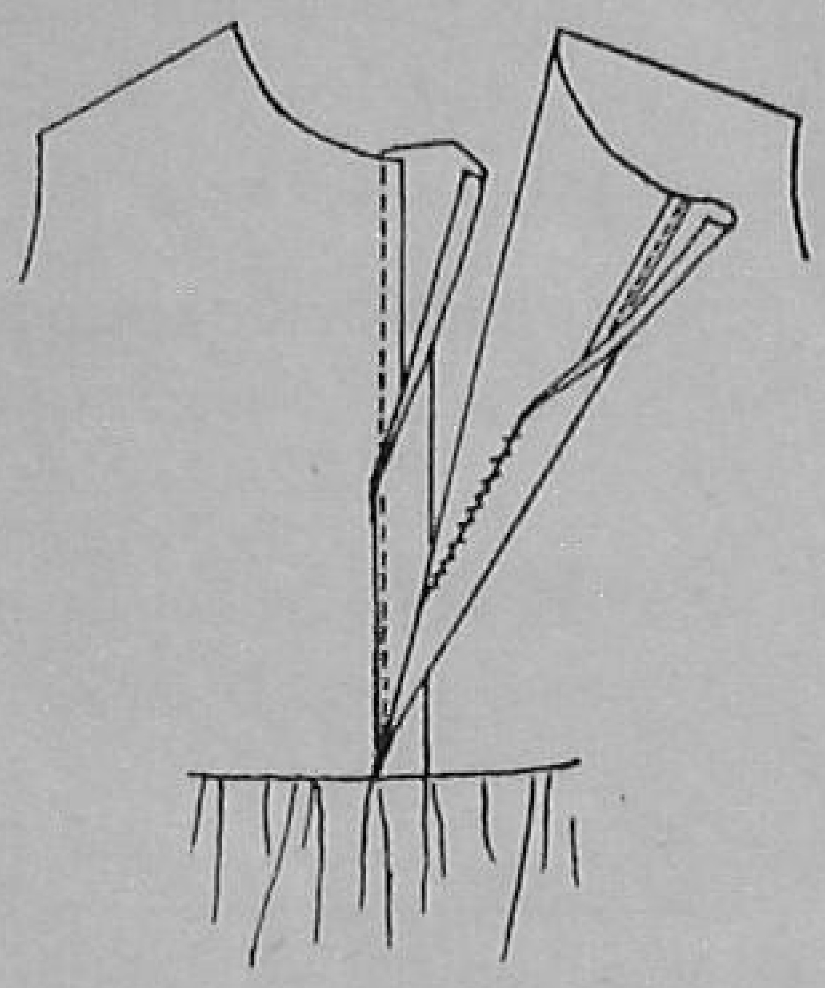
Make the side-seams of the bodice, leaving 2″ free in the left-side seam above the waist-line for the side-opening which should be completed later.

Face the right side of the opening at the centre back and make a protruding band at the left side of the opening (See Fig. 6). Place the facing over the band and secure them in position with a few stitches at the lower end of the opening.

Face the neck with a narrow strip of material cut on the bias and attach the sleeves for Pattern I or face the arm holes for Pattern II.

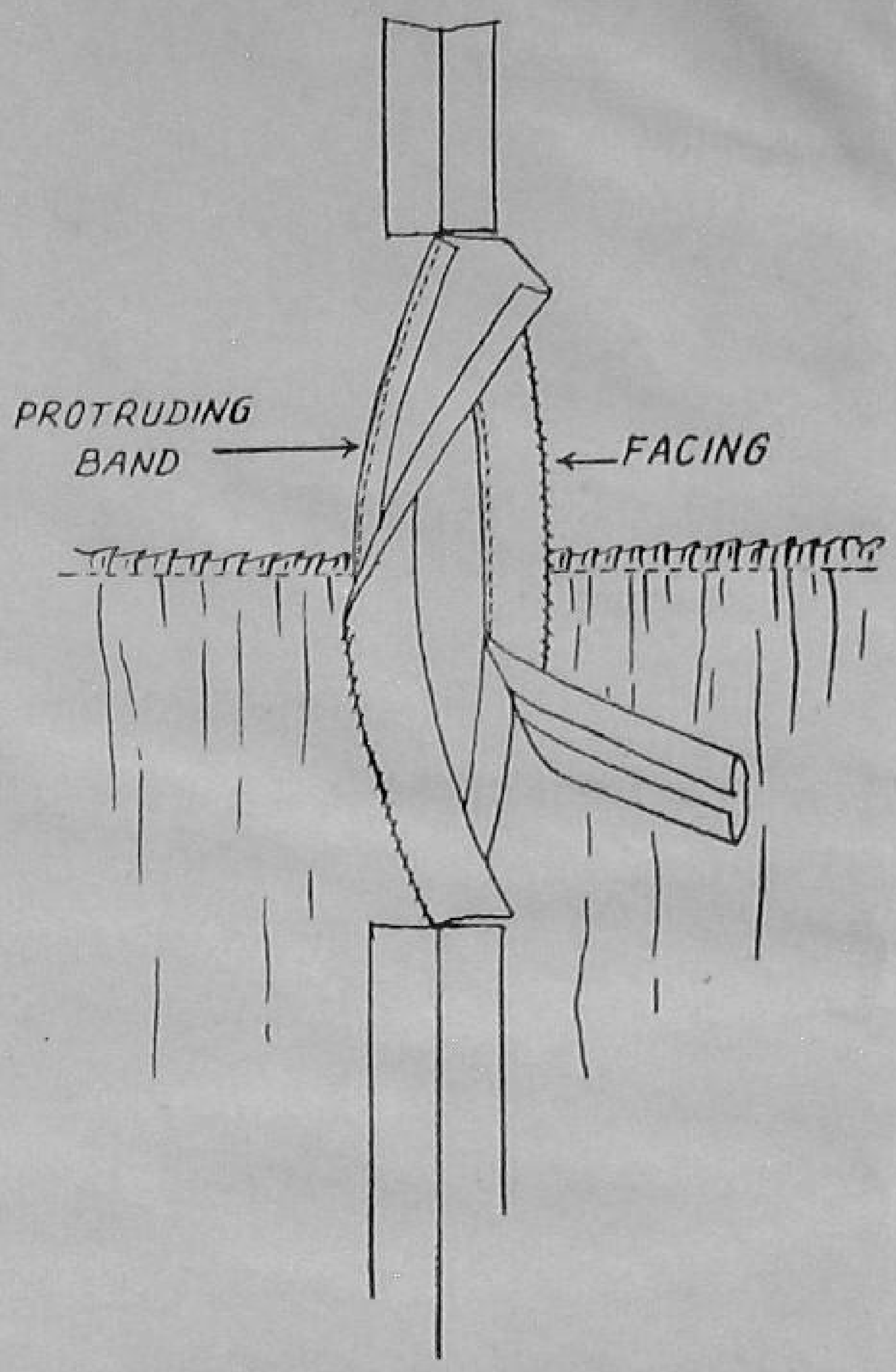
Join the upper portions of the skirt, cut from the matching fabric, to the lower portions of the original skirt-pieces, allowing 3/8″ for the seams.

Make the side-seams of the skirt, leaving 3″ free in the left side-seam below the waist-line. Gather the top of the skirt to fit the waist and attach it to the bodice of the frock, so that the side-seams of the bodice and the skirt are in lines. Face the raw edge of the side-opening in the front and make a protruding band along the raw edge of the opening in the back skirt and fix them in position with a few invisible stitches at both ends (Fig.7).



(Fig. 6) Opening at the back

Sew the necessary buttons and hooks at the back and the side-openings.




(Fig. 7) The side-opening

Now see how the old frock has turned into a new frock with a charming new design.

**INDIA WILL WIN**

# GROW MORE

# Vegetables & Fruits

**The following publications will be useful to you in growing more vegetables and fruits:**

| | |
|---|---|
| Horticulture in Hill Regions of North India | Rs. 10.00 |
| Fruit Nursery practices in India | Rs. 2.25 |
| Growing Vegetables in home Gardens of Delhi | 50 nP. |
| The Mango in India | 50 nP. |
| Grape Culture in India | 50 nP. |
| Home preservation of fruits | 50 nP. |
| Our Leafy Vegetables | 50 nP. |
| Oranges, lemons and limes in India | 50 nP. |
| Drumstick—the year-round vegetable | 10 nP. |
| Papaya is easy to grow | 10 nP. |
| Rabi vegetables—grow them this way | 10 nP. |
| Grow soyabean for food and fodder | 10 nP. |
| Grow more sweet potatoes | 10 nP. |
| Yam is a good food crop | 10 nP. |

**Postage free**

Please send your order with remittance to:

**THE BUSINESS MANAGER**
**DIRECTORATE OF EXTENSION**
**KRISHI BHAVAN**
**NEW DELHI**

## CHARTS MODELS & SLIDES

ON

**AGRICULTURE, ANIMAL HUSBANDRY,**

**CIVICS, HEALTH & HYGIENE**

**MAPS AND SCHOOL ATLAS**

Published by Survey of India

Available at

Competitive rates.

**Ask for detailed catalogue**

## N. C. KANSIL & CO.

**Model Basti, Delhi-5**

Telegram : **"Musketry"** Telephone : **55918**

*Test the soil at the site itself and in only half-an-hour's time with the help of*

**"GUNTI" SOIL TESTING KIT**

Indiscriminate application of fertilizers may not only be wasteful it may even be detrimental to the crops "GUNTI" Soil Testing Kit eliminates the guesswork in using fertilizers.

Fairly accurate results in the determination of soil fertility and soil-re-action are obtained.

It is simple and extremely helpful.

Each Kit contains 22 items in an **attractive** sheet metal box consisting of re-agents for determining:—

**★ SOIL RE-ACTION (pH)**
**and estimation of available**
**★ PHOSPHATES ★ NITRATES & ★ POTASSIUM**
**in Soils**

**ALSO AVAILABLE: I. A. R. I. TYPE SOIL TESTING KIT**

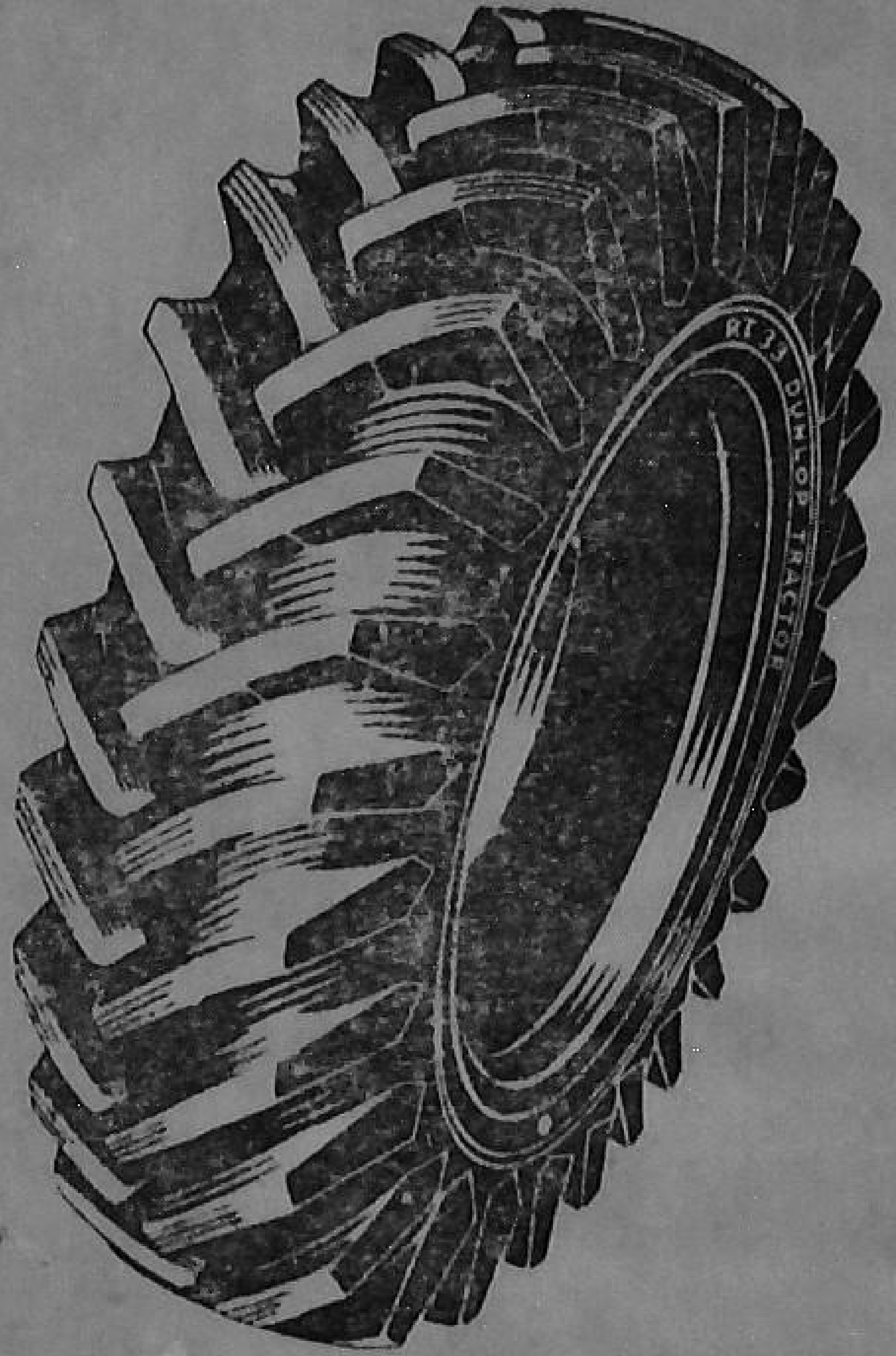
**GUNTI & CO., PRIVATE LTD.,**
**128 MAHATMA GANDHI ROAD NORTH,**
**SECUNDERABAD-A.P.**



**Published by the Farm Information Unit, Directorate of Extension, Ministry of Food and Agriculture, Krishi Bhawan, New Delhi, and Printedat the Albion Press, Kashmere Gate, Delhi-6.**

Regd. No. D-1180

This tyre lowers your farming costs

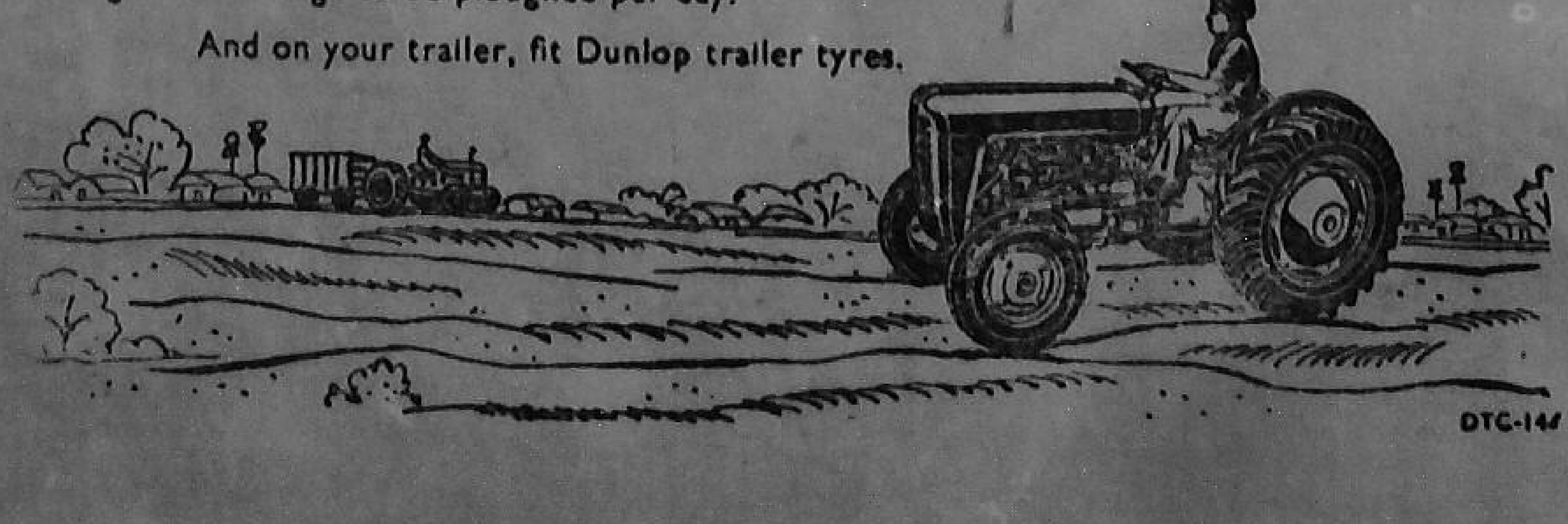



"I work my tractor hard, especially in the busy season..." This is a typical comment from farmers anxious to get the most out of their machines. Their work becomes easier with the Dunlop RT 33 open centre tractor tyre. This tyre has more tread bars to give greater grip on hard, dry soils; it reduces power loss on the tractor and enables a greater acreage to be ploughed per day.

And on your trailer, fit Dunlop trailer tyres.

**DUNLOP**

*More tractors in India are fitted with the Dunlop RT 33 tyre than any other make*



DTC-144